

Supporting Information

Light-Driven MPV-Type Reduction of Aryl Ketones/Aldehydes to Alcohols with Isopropanol under Mild Conditions

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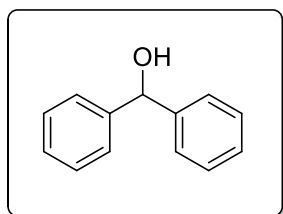
- I . General methods
- II . General experimental procedure and spectroscopic data of products
- III. References
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I . General methods

All reagents and solvents were purchased from commercial sources (Alfa, Acros, Aldrich, TCI and Combi-Blocks), and used without further purification unless otherwise stated. ^1H , ^{19}F and ^{13}C NMR spectra were taken on Bruker 400 or 500 MHz spectrometer. Chemical shifts of ^1H NMR spectra were reported using either residual solvent signal of CDCl_3 ($\delta = 7.26$ ppm) or TMS ($\delta = 0.00$ ppm) as internal standard. Chemical shifts of ^{13}C NMR spectra were reported using residual solvent signal of CDCl_3 ($\delta = 77.16$ ppm) as internal standard. The peak patterns are indicated as follows: s, singlet; d, doublet; dd, doublet of doublet; t, triplet; q, quartet; m, multiplet. The coupling constants, J , are reported in Hertz (Hz). All reactions were monitored by thin-layer chromatography (TLC). Column chromatography was performed on silica gel (200-300 mesh) and visualized with ultraviolet light. Hydrazinehydrate- d_6 was purchased from Toronto Research Chemicals. EI-MS was obtained from the Agilent GC-MS system. All solvents were purified and dried by standard techniques.

II . General experimental procedure and spectroscopic data of products

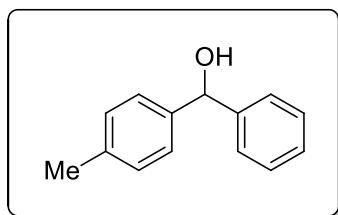
In a 15 mL quartz tube charged with a magnetic stir-bar, ketones/aldehydes (0.1 mmol, 1 equiv), $t\text{-BuOLi}$ (0.15 mmol, 1.5 equiv) and $i\text{-PrOH}$ (1.5 mL) were added sequentially under air. Then the tube was placed in a UV reactor¹ at room temperature and the mixture was stirred for 24 or 36 h. 10 mL water was added to quench reaction, and the mixture was extracted with EtOAc (5 mL \times 4). The combined organic solvent was washed with brine, dried with Na_2SO_4 , and then concentrated under reduced pressure. The residue was purified by preparative TLC on silica gel eluting with hexane: EtOAc (100:1-2:1) to afford the product.



Diphenylmethanol (CAS: 103-29-7)²

$^1\text{H NMR}$ (CDCl_3 , 400 MHz) δ : 7.43 – 7.35 (m, 8H), 7.32 – 7.28 (m, 2H), 5.88 (d, $J = 3.5$ Hz, 1H), 2.24 (d, $J = 3.6$ Hz, 1H).

$^{13}\text{C NMR}$ (CDCl_3 , 101 MHz) δ : 143.8, 128.5, 127.6, 126.5, 76.3.

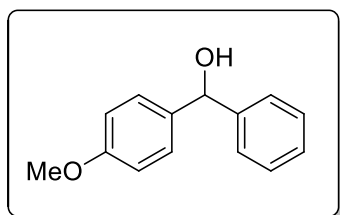


Phenyl(p-tolyl)methanol (CAS: 1517-63-1)²

$^1\text{H NMR}$ (CDCl_3 , 400 MHz) δ : 7.43 – 7.34 (m, 4H), 7.29 (d, $J = 7.5$ Hz, 3H), 7.18 (d, $J = 7.9$ Hz,

2H), 5.84 (s, 1H), 2.36 (s, 3H), 2.22 (s, 1H).

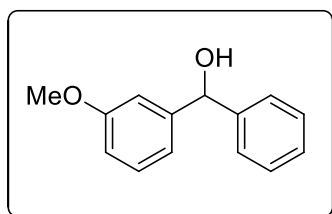
^{13}C NMR (CDCl_3 , 101 MHz) δ : 143.9, 140.9, 137.3, 129.2, 128.4, 127.4, 126.5, 126.4, 76.1, 21.1.



(4-Methoxyphenyl)(phenyl)methanol (CAS: 720-44-5)²

^1H NMR (CDCl_3 , 400 MHz) δ : 7.42 – 7.29 (m, 7H), 6.92 – 6.87 (m, 2H), 5.84 (d, J = 3.5 Hz, 1H), 3.82 (s, 3H), 2.19 (d, J = 3.6 Hz, 1H).

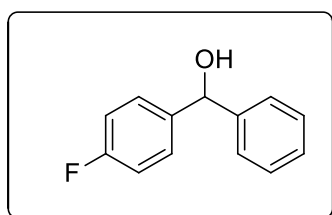
^{13}C NMR (CDCl_3 , 101 MHz) δ : 159.0, 144.0, 136.140, 128.420, 127.9, 127.4, 126.4, 113.9, 75.8, 55.3.



(3-Methoxyphenyl)(phenyl)methanol (CAS: 13391-45-2)³

^1H NMR (CDCl_3 , 400 MHz) δ : 7.43 – 7.34 (m, 4H), 7.29 (ddd, J = 14.4, 6.7, 4.9 Hz, 2H), 6.98 (t, J = 4.5 Hz, 2H), 6.87 – 6.80 (m, 1H), 5.83 (s, 1H), 3.81 (s, 3H), 2.32 (s, 1H).

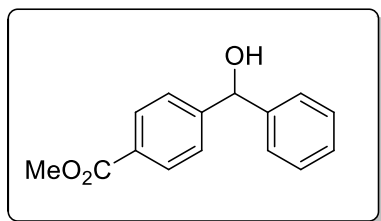
^{13}C NMR (CDCl_3 , 101 MHz) δ : 159.7, 145.4, 143.6, 129.5, 128.5, 127.6, 126.5, 118.9, 112.9, 112.1, 76.1, 55.2.



(4-Fluorophenyl)(phenyl)methanol (CAS: 365-22-0)²

^1H NMR (CDCl_3 , 400 MHz) δ : 7.40 – 7.30 (m, 7H), 7.08 – 7.01 (m, 2H), 5.85 (s, 1H), 2.29 (s, 1H).

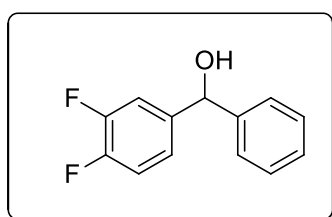
^{13}C NMR (CDCl_3 , 101 MHz) δ : 162.1 (d, J^{F} = 245.9 Hz), 143.6, 139.5, 139.51, 128.6, 128.2 (d, J^{F} = 8.1 Hz), 127.7, 126.4, 75.6, 115.3 (d, J^{F} = 21.4 Hz).



Methyl 4-(hydroxy(phenyl)methyl)benzoate (CAS: 108475-89-4)²

¹H NMR (CDCl₃, 400 MHz) δ: 8.03 (d, *J* = 8.3 Hz, 2H), 7.49 (d, *J* = 8.2 Hz, 2H), 7.41 – 7.29 (m, 5H), 5.91 (s, 1H), 3.92 (s, 3H), 2.38 (s, 1H).

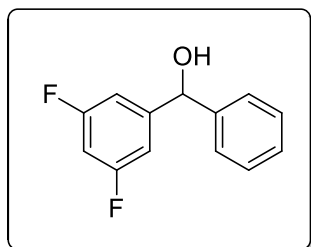
¹³C NMR (CDCl₃, 101 MHz) δ: 166.9, 148.6, 143.2, 129.8, 129.3, 128.7, 128.0, 126.6, 126.3, 75.9, 52.1.



(3,4-Difluorophenyl)(phenyl)methanol (CAS: 182192-93-4)⁴

¹H NMR (CDCl₃, 400 MHz) δ: 7.40 – 7.30 (m, 5H), 7.27 – 7.21 (m, 1H), 7.16 – 7.08 (m, 2H), 5.81 (s, 1H), 2.34 (s, 1H).

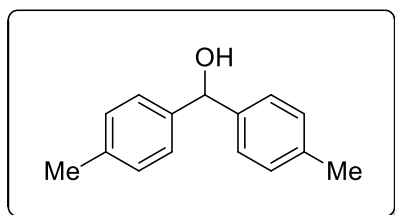
¹³C NMR (CDCl₃, 101 MHz) δ: 150.3 (dd, *J_F* = 249.5, 13.1 Hz), 149.7 (dd, *J_F* = 248.5, 12.1 Hz), 143.1, 140.7 (dd, *J_F* = 4.8, 3.7 Hz), 128.7, 128.1, 126.5, 122.4 (dd, *J_F* = 6.3, 3.6 Hz), 117.1 (d, *J_F* = 17.2 Hz), 115.5 (d, *J_F* = 17.9 Hz), 75.2.



(3,5-Difluorophenyl)(phenyl)methanol (CAS: 182192-93-4)⁵

¹H NMR (CDCl₃, 400 MHz) δ: 7.41 – 7.32 (m, 5H), 6.98 – 6.92 (m, 2H), 6.71 (tt, *J* = 8.8, 2.2 Hz, 1H), 5.80 (s, 1H), 2.36 (s, 1H).

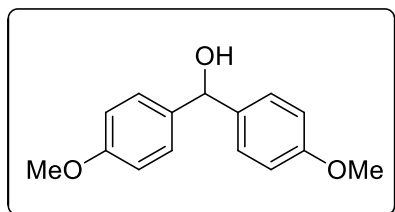
¹³C NMR (CDCl₃, 101 MHz) δ: 163.1 (d, *J_F* = 249.5), 162.9 (d, *J_F* = 249.5), 147.7, 142.8, 128.8, 128.3, 126.6, 109.3 (d, *J_F* = 26.3 Hz), 109.2 (d, *J_F* = 12.1 Hz), 102.7 (t, *J_F* = 25.3 Hz), 75.4.



Di-p-tolylmethanol (CAS: 885-77-8) ²

¹H NMR (CDCl₃, 400 MHz) δ: 7.29 – 7.27 (m, 4H), 7.16 (d, *J* = 7.9 Hz, 4H), 5.82 (d, *J* = 3.4 Hz, 1H), 2.35 (s, 6H), 2.13 (d, *J* = 3.6 Hz, 1H).

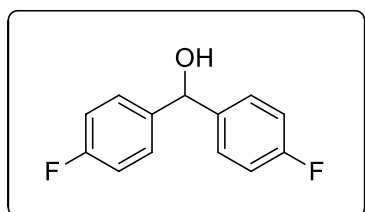
¹³C NMR (CDCl₃, 101 MHz) δ: 141.1, 137.1, 129.1, 126.4, 75.9, 21.1.



Bis(4-methoxyphenyl)methanol (CAS: 728-87-0) ⁶

¹H NMR (CDCl₃, 400 MHz) δ: 7.33 – 7.28 (m, 4H), 6.92 – 6.86 (m, 4H), 5.80 (d, *J* = 3.5 Hz, 1H), 3.82 (s, 6H), 2.10 (d, *J* = 3.5 Hz, 1H).

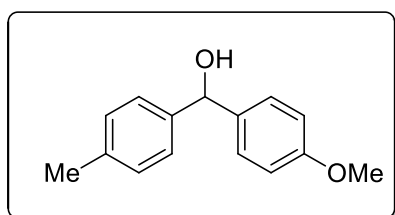
¹³C NMR (CDCl₃, 101 MHz) δ: 159.0, 136.4, 127.7, 113.8, 75.4, 55.3.



Bis(4-fluorophenyl)methanol (CAS: 365-24-2) ⁷

¹H NMR (CDCl₃, 400 MHz) δ: 7.38 – 7.31 (m, 4H), 7.09 – 7.01 (m, 4H), 5.82 (s, 1H), 2.35 (s, 1H).

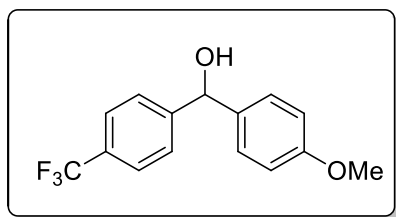
¹³C NMR (CDCl₃, 101 MHz) δ: 163.4, 161.0, 139.4 (d, *J^F* = 3.3 Hz), 128.1 (d, *J^F* = 8.1 Hz), 115.36 (d, *J^F* = 21.4 Hz), 74.9.



(4-Methoxyphenyl)(p-tolyl)methanol (CAS: 838-22-2) ²

¹H NMR (CDCl₃, 400 MHz) δ: 7.30 (ddd, *J* = 11.7, 6.4, 3.7 Hz, 4H), 7.17 (d, *J* = 8.0 Hz, 2H), 6.91 – 6.87 (m, 2H), 5.80 (s, 1H), 3.82 (s, 3H), 2.37 (s, 3H), 2.24 (s, 1H).

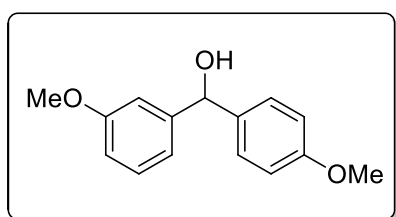
¹³C NMR (CDCl₃, 101 MHz) δ: 158.9, 141.1, 137.1, 136.3, 129.1, 127.8, 126.3, 113.8, 75.6, 55.2, 21.1.



(4-Methoxyphenyl)(4-(trifluoromethyl)phenyl)methanol (CAS: 87901-71-1) ⁸

¹H NMR (CDCl₃, 400 MHz) δ: 7.61 (d, *J* = 8.3 Hz, 2H), 7.53 (d, *J* = 8.4 Hz, 2H), 7.30 – 7.27 (m, 2H), 6.92 – 6.88 (m, 2H), 5.87 (s, 1H), 3.82 (s, 3H), 2.27 (s, 1H).

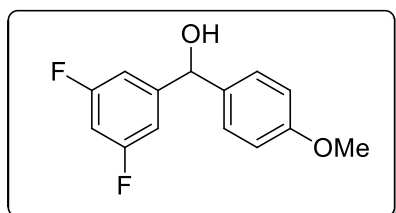
¹³C NMR (CDCl₃, 101 MHz) δ: 159.4, 147.7, 135.5, 129.3 (q, *J_F* = 23.2 Hz), 128.0, 126.5, 125.32 (q, *J_F* = 3.8 Hz), 114.1, 75.3, 55.3.



(3-Methoxyphenyl)(4-methoxyphenyl)methanol (CAS: 120265-05-6) ⁹

¹H NMR (CDCl₃, 400 MHz) δ: 7.29 – 7.22 (m, 3H), 6.95 (d, *J* = 7.2 Hz, 2H), 6.87 (d, *J* = 8.6 Hz, 2H), 6.84 – 6.78 (m, 1H), 5.34 (s, 1H), 3.81 (s, 3H), 3.78 (s, 3H).

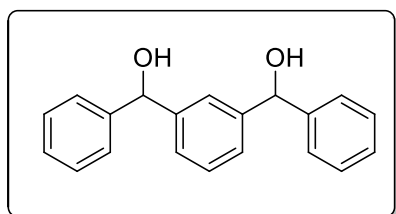
¹³C NMR (CDCl₃, 101 MHz) δ: 159.6, 158.9, 144.26, 134.3, 129.3, 128.5, 119.6, 113.7, 112.7, 112.5, 79.4, 55.2, 55.2.



(3,5-Difluorophenyl)(4-methoxyphenyl)methanol (CAS: 1282818-92-1)

¹H NMR (CDCl₃, 400 MHz) δ: 7.28 – 7.24 (m, 2H), 6.92 (ddd, *J* = 8.8, 4.5, 1.9 Hz, 4H), 6.70 (tt, *J* = 8.9, 2.3 Hz, 1H), 5.75 (s, 1H), 3.82 (s, 3H), 2.39 (s, 1H).

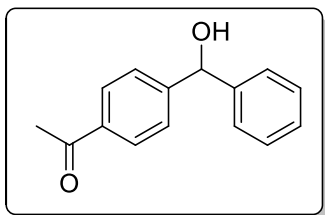
¹³C NMR (CDCl₃, 101 MHz) δ: 163.0 (d, *J_F* = 249.5), 162.9 (d, *J_F* = 249.5), 159.5, 148.0 (t, *J_F* = 8.1), 135.1, 128.0, 114.1, 109.1 (d, *J_F* = 25.3 Hz), 109.0 (d, *J_F* = 12.1 Hz), 102.3 (t, *J_F* = 25.3 Hz), 74.9, 55.3.



1,3-Phenylenebis(phenylmethanol) (CAS: 36323-32-7) ¹⁰

¹H NMR (CDCl₃, 400 MHz) δ: 7.50 (d, *J* = 6.1 Hz, 1H), 7.39 – 7.34 (m, 8H), 7.31 – 7.27 (m, 5H), 5.85 (s, 2H), 2.27 (s, 2H).

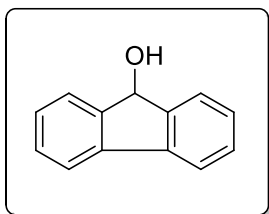
¹³C NMR (CDCl₃, 101 MHz) δ: 144.1, 143.7, 128.7, 128.5, 127.6, 126.6, 125.7, 124.7, 76.2.



1-(4-(Hydroxy(phenyl)methyl)phenyl)ethanone (CAS: 94705-09-6)¹¹

¹H NMR (CDCl₃, 400 MHz) δ: 7.94 (d, *J* = 8.4 Hz, 2H), 7.51 (d, *J* = 8.4 Hz, 2H), 7.42 – 7.29 (m, 5H), 5.90 (s, 1H), 2.59 (s, 3H), 2.55 (s, 1H).

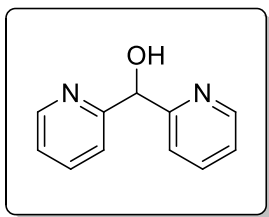
¹³C NMR (CDCl₃, 101 MHz) δ: 197.9, 148.9, 143.2, 136.2, 128.7, 128.5, 128.0, 126.6, 126.5, 75.8, 26.6.



9H-fluoren-9-ol (CAS: 1689-64-1)¹²

¹H NMR (CDCl₃, 400 MHz) δ: 7.71 – 7.65 (m, 4H), 7.42 (td, *J* = 7.4, 0.7 Hz, 2H), 7.35 (td, *J* = 7.4, 1.1 Hz, 2H), 5.62 (d, *J* = 9.9 Hz, 1H), 1.84 (d, *J* = 10.0 Hz, 1H).

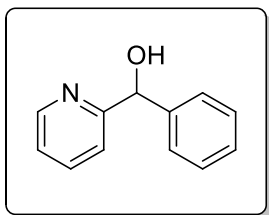
¹³C NMR (CDCl₃, 101 MHz) δ: 145.6, 140.0, 129.1, 127.8, 125.1, 120.0, 75.2.



Di(pyridin-2-yl)methanol (CAS: 35047-29-1)¹³

¹H NMR (CDCl₃, 400 MHz) δ: 8.54 (dd, *J* = 3.1, 1.3 Hz, 2H), 7.70 – 7.61 (m, 2H), 7.53 (d, *J* = 7.9 Hz, 2H), 7.22 – 7.12 (m, 2H), 5.90 (s, 1H), 5.87 (s, 1H).

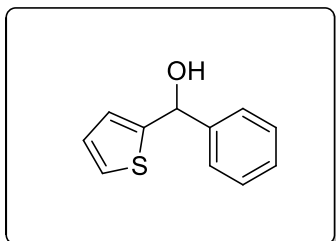
¹³C NMR (CDCl₃, 101 MHz) δ: 160.7, 148.2, 136.9, 122.6, 121.2, 75.2.



Phenyl(pyridin-2-yl)methanol (CAS: 14159-57-0) ¹⁴

¹H NMR (CDCl₃, 400 MHz) δ: 8.63 – 8.57 (m, 1H), 7.64 (td, *J* = 7.7, 1.7 Hz, 1H), 7.44 – 7.34 (m, 4H), 7.31 (dt, *J* = 5.5, 2.2 Hz, 1H), 7.25 – 7.20 (m, 1H), 7.17 (dd, *J* = 7.9, 0.6 Hz, 1H), 5.78 (d, *J* = 4.3 Hz, 1H), 5.29 (d, *J* = 4.4 Hz, 1H).

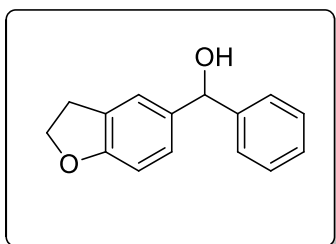
¹³C NMR (CDCl₃, 101 MHz) δ: 160.8, 147.8, 143.2, 136.8, 128.6, 127.8, 127.1, 122.4, 121.4, 74.9.



Phenyl(thiophen-2-yl)methanol (CAS: 26059-21-2) ²

¹H NMR (CDCl₃, 400 MHz) δ: 7.48 (dd, *J* = 5.3, 3.5 Hz, 2H), 7.44 – 7.38 (m, 2H), 7.38 – 7.32 (m, 1H), 7.32 – 7.27 (m, 1H), 6.98 (dd, *J* = 5.0, 3.5 Hz, 1H), 6.93 – 6.89 (m, 1H), 6.07 (s, 1H), 2.59 (d, *J* = 4.0 Hz, 1H).

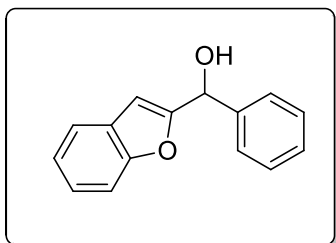
¹³C NMR (CDCl₃, 101 MHz) δ: 148.1, 143.1, 128.5, 128.0, 126.6, 126.3, 125.4, 124.8, 72.4.



(2,3-Dihydrobenzofuran-5-yl)(phenyl)methanol (CAS: 81390-92-3) ¹⁵

¹H NMR (CDCl₃, 400 MHz) δ: 7.43 – 7.34 (m, 4H), 7.29 (ddd, *J* = 7.0, 5.2, 1.4 Hz, 1H), 7.21 (s, 1H), 7.13 (dd, *J* = 8.2, 1.1 Hz, 1H), 6.76 (d, *J* = 8.2 Hz, 1H), 5.81 (s, 1H), 4.57 (t, *J* = 8.7 Hz, 2H), 3.19 (t, *J* = 8.7 Hz, 2H), 2.22 (s, 1H).

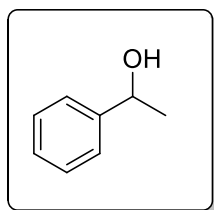
¹³C NMR (CDCl₃, 101 MHz) δ: 159.6, 144.1, 136.2, 128.4, 127.4, 127.3, 126.8, 126.3, 123.4, 109.0, 76.0, 71.3, 29.7.



Benzofuran-2-yl(phenyl)methanol (CAS: 27052-21-7) ¹⁶

¹H NMR (CDCl₃, 400 MHz) δ: 7.57 – 7.50 (m, 3H), 7.49 – 7.37 (m, 4H), 7.31 – 7.22 (m, 2H), 6.56 (d, *J* = 0.8 Hz, 1H), 5.98 (d, *J* = 3.5 Hz, 1H), 2.65 (d, *J* = 3.7 Hz, 1H).

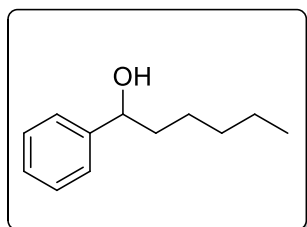
^{13}C NMR (CDCl_3 , 101 MHz) δ : 158.5, 155.1, 140.2, 128.6, 128.4, 128.0, 126.8, 124.3, 122.8, 121.1, 111.3, 104.0, 70.6.



1-Phenylethanol (CAS: 98-85-1)¹⁷

^1H NMR (CDCl_3 , 400 MHz) δ : 7.43 – 7.35 (m, 4H), 7.33 – 7.27 (m, 1H), 4.92 (q, J = 6.5 Hz, 1H), 2.04 (s, 1H), 1.52 (d, J = 6.5 Hz, 3H).

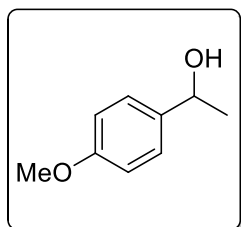
^{13}C NMR (CDCl_3 , 101 MHz) δ : 145.8, 128.5, 127.4, 125.3, 70.4, 25.1.



1-Phenylhexan-1-ol (CAS: 4471-05-0)¹⁸

^1H NMR (CDCl_3 , 400 MHz) δ : 7.40 – 7.35 (m, 4H), 7.32 – 7.28 (m, 1H), 4.72 – 4.66 (m, 1H), 1.88 – 1.68 (m, 3H), 1.50 – 1.39 (m, 1H), 1.33 (dd, J = 5.0, 3.8 Hz, 5H), 0.90 (t, J = 7.0 Hz, 3H).

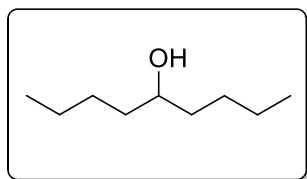
^{13}C NMR (CDCl_3 , 101 MHz) δ : 144.9, 128.4, 127.5, 125.9, 74.7, 39.1, 31.7, 25.5, 22.6, 14.0.



1-(4-Methoxyphenyl)ethanol (CAS: 1517-70-0)¹⁷

^1H NMR (CDCl_3 , 400 MHz) δ : 7.32 (d, J = 8.6 Hz, 2H), 6.91 (d, J = 8.6 Hz, 2H), 4.88 (dd, J = 6.0, 3.8 Hz, 1H), 3.83 (s, 3H), 1.84 (s, 1H), 1.50 (d, J = 6.4 Hz, 3H).

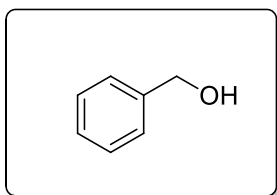
^{13}C NMR (CDCl_3 , 101 MHz) δ : 159.0, 138.0, 126.6, 113.8, 70.0, 55.3, 25.0.



5-Nonanol (CAS: 623-93-8)¹⁹

^1H NMR (CDCl_3 , 400 MHz) δ : 3.59 (s, 1H), 1.50 – 1.27 (m, 13H), 0.92 (t, J = 7.1 Hz, 6H).

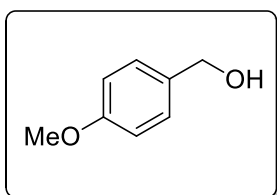
^{13}C NMR (CDCl_3 , 101 MHz) δ : 72.0, 37.2, 27.8, 22.8, 14.1.



Phenylmethanol (CAS: 100-51-6)²⁰

¹H NMR (CDCl₃, 400 MHz) δ: 7.46 – 7.30 (m, 5H), 4.71 (s, 2H), 1.93 (s, 1H).

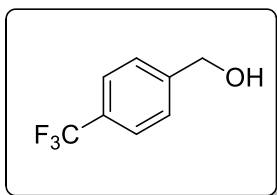
¹³C NMR (CDCl₃, 101 MHz) δ: 140.8, 128.5, 127.6, 127.0, 65.3.



(4-Methoxyphenyl)methanol (CAS: 105-13-5)²⁰

¹H NMR (CDCl₃, 400 MHz) δ: 7.29 (d, *J* = 8.3 Hz, 2H), 6.91 (d, *J* = 8.3 Hz, 2H), 4.61 (s, 2H), 3.82 (s, 3H), 1.97 (s, 1H).

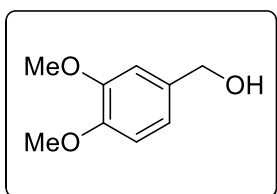
¹³C NMR (CDCl₃, 101 MHz) δ: 159.1, 133.1, 128.6, 113.9, 64.9, 55.2.



(4-(Trifluoromethyl)phenyl)methanol (CAS: 349-95-1)²⁰

¹H NMR (CDCl₃, 400 MHz) δ: 7.63 (d, *J* = 8.1 Hz, 2H), 7.49 (d, *J* = 8.0 Hz, 2H), 4.77 (s, 2H), 2.14 (s, 1H).

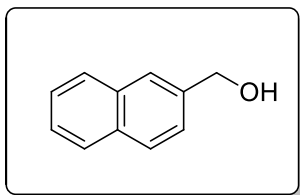
¹³C NMR (CDCl₃, 101 MHz) δ: 144.7, 129.9 (d, *J^F* = 32.3 Hz), 126.8, 125.4 (q, *J^F* = 3.0 Hz), 122.8, 64.4.



(3,4-Dimethoxyphenyl)methanol (CAS: 93-03-8)²¹

¹H NMR (CDCl₃, 400 MHz) δ: 6.96 – 6.83 (m, 3H), 4.63 (d, *J* = 5.4 Hz, 2H), 3.90 (s, 3H), 3.89 (s, 3H), 1.85 (s, 1H).

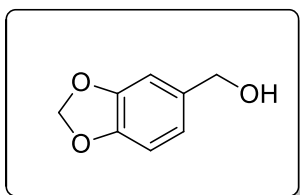
¹³C NMR (CDCl₃, 101 MHz) δ: 149.0, 148.5, 133.5, 119.3, 111.0, 110.4, 65.2, 55.9, 55.8.



Naphthalen-2-ylmethanol (CAS: 1592-38-7) ²²

¹H NMR (CDCl₃, 400 MHz) δ: 7.91 – 7.78 (m, 4H), 7.58 – 7.45 (m, 3H), 4.87 (d, *J* = 5.8 Hz, 2H), 2.02 (s, 1H).

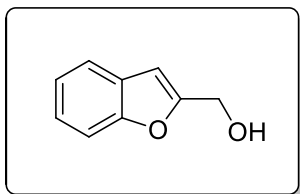
¹³C NMR (CDCl₃, 101 MHz) δ: 138.3, 133.3, 132.9, 128.3, 127.8, 127.7, 126.1, 125.9, 125.4, 125.1, 65.4.



Benzo[d][1,3]dioxol-5-ylmethanol (CAS: 495-76-1) ²³

¹H NMR (CDCl₃, 400 MHz) δ: 1H NMR (400 MHz, CDCl₃) δ 6.88 (s, 1H), 6.84-6.79 (m, 2H), 5.97 (d, *J* = 1.1 Hz, 2H), 4.59 (s, 2H), 1.89 (s, 1H).

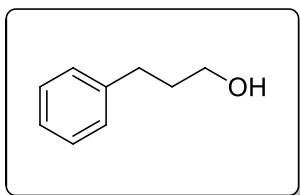
¹³C NMR (CDCl₃, 101 MHz) δ: 147.8, 147.0, 134.8, 120.5, 108.2, 107.8, 101.0, 65.2.



Benzofuran-2-ylmethanol (CAS: 55038-01-2) ²²

¹H NMR (CDCl₃, 400 MHz) δ: 7.59-7.48 (m, 2H), 7.33 – 7.22 (m, 2H), 6.68 (s, 1H), 4.79 (d, *J* = 3.7 Hz, 2H), 2.16 (s, 1H).

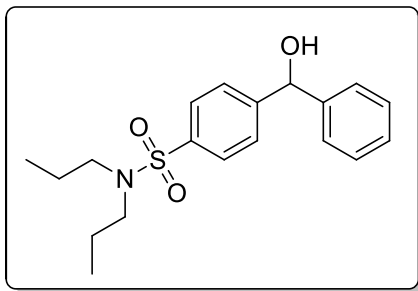
¹³C NMR (CDCl₃, 101 MHz) δ: 156.4, 155.0, 128.1, 124.3, 122.8, 121.1, 111.2, 104.1, 58.1.



3-Phenylpropan-1-ol (CAS: 122-97-4) ¹⁸

¹H NMR (CDCl₃, 400 MHz) δ: 7.34 – 7.28 (m, 2H), 7.27 – 7.19 (m, 3H), 3.71 (t, *J* = 6.4 Hz, 2H), 2.78 – 2.71 (m, 2H), 1.97 – 1.89 (m, 2H), 1.54 (br. s, 1H).

¹³C NMR (CDCl₃, 101 MHz) δ: 141.8, 128.4, 128.4, 125.8, 62.2, 34.2, 32.0.

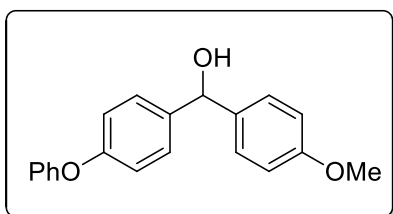


4-(Hydroxy(phenyl)methyl)-N,N-dipropylbenzenesulfonamide

¹H NMR (CDCl₃, 400 MHz) δ: 7.77 (d, *J* = 8.3 Hz, 2H), 7.54 (d, *J* = 8.2 Hz, 2H), 7.43 – 7.29 (m, 5H), 5.90 (s, 1H), 3.13 – 3.02 (m, 4H), 2.47 (d, *J* = 5.9 Hz, 1H), 1.57 (dd, *J* = 15.2, 7.5 Hz, 4H), 0.88 (t, *J* = 7.4 Hz, 6H).

¹³C NMR (CDCl₃, 101 MHz) δ: 148.1, 143.1, 139.1, 128.8, 128.2, 127.2, 126.9, 126.7, 75.7, 50.2, 22.2, 11.2.

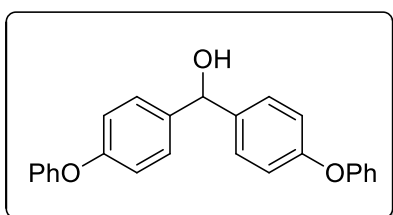
HRMS (ESI) calcd for C₁₉H₂₅NO₃S [M + H⁺], 348.1628; found: 348.1624.



(4-Methoxyphenyl)(4-phenoxyphenyl)methanol (CAS: 944695-97-0)²⁴

¹H NMR (CDCl₃, 400 MHz) δ: 7.41 – 7.30 (m, 6H), 7.14 (t, *J* = 7.4 Hz, 1H), 7.02 (dd, *J* = 13.8, 8.5 Hz, 4H), 6.92 (t, *J* = 5.7 Hz, 2H), 5.81 (s, 1H), 3.83 (s, 3H), 2.54 (s, 1H).

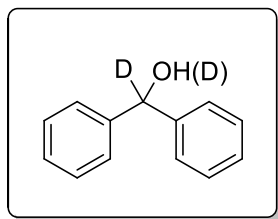
¹³C NMR (CDCl₃, 101 MHz) δ: 159.0, 157.1, 156.5, 138.9, 136.1, 129.7, 127.9, 127.8, 123.2, 118.8, 118.7, 113.8, 75.3, 55.2.



Bis(4-phenoxyphenyl)methanol (CAS: 102893-98-1)²⁵

¹H NMR (CDCl₃, 400 MHz) δ: 7.41 – 7.34 (m, 8H), 7.14 (t, *J* = 7.4 Hz, 2H), 7.07 – 6.98 (m, 8H), 5.85 (s, 1H), 2.30 (s, 1H).

¹³C NMR (CDCl₃, 101 MHz) δ: 157.0, 156.7, 138.6, 129.7, 128.0, 123.3, 119.0, 118.7, 75.3.



d-2a²⁶⁻²⁷

¹H NMR (CDCl₃, 400 MHz) δ: 7.42 – 7.34 (m, 8H), 7.33 – 7.26 (m, 2H).

¹³C NMR (CDCl₃, 101 MHz) δ: 143.7, 128.5, 127.5, 126.5, 76.01(t, J = 22.2 Hz).

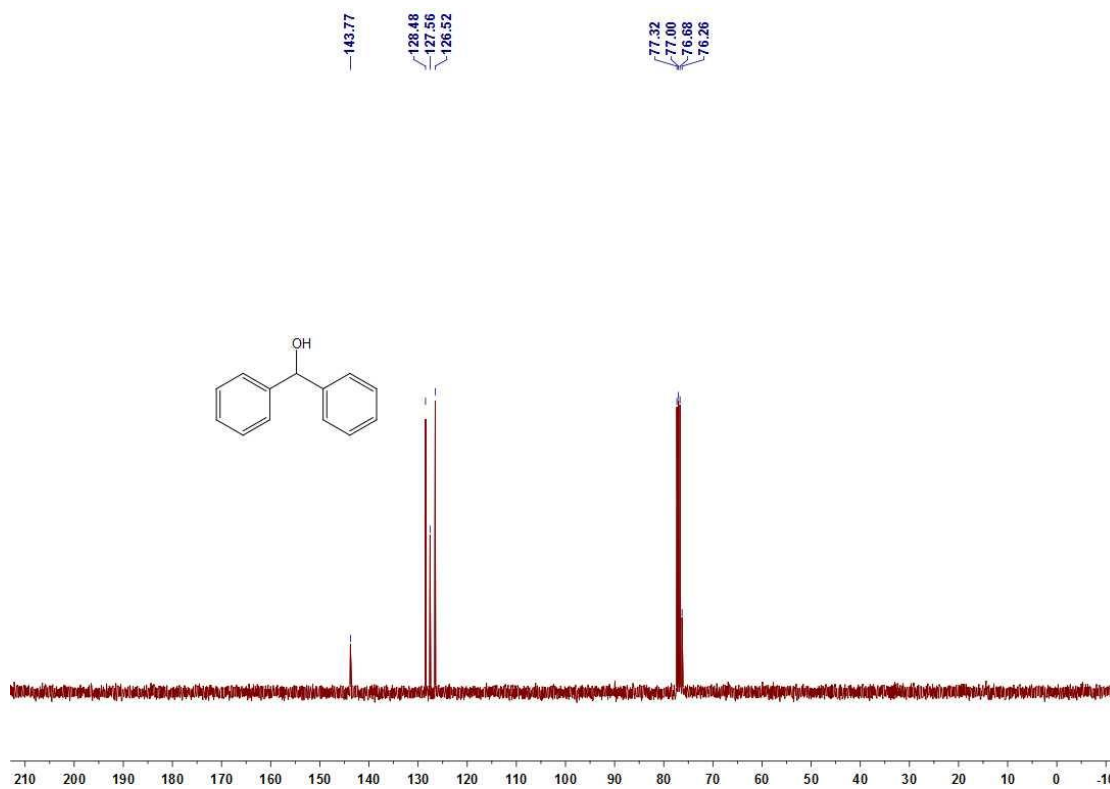
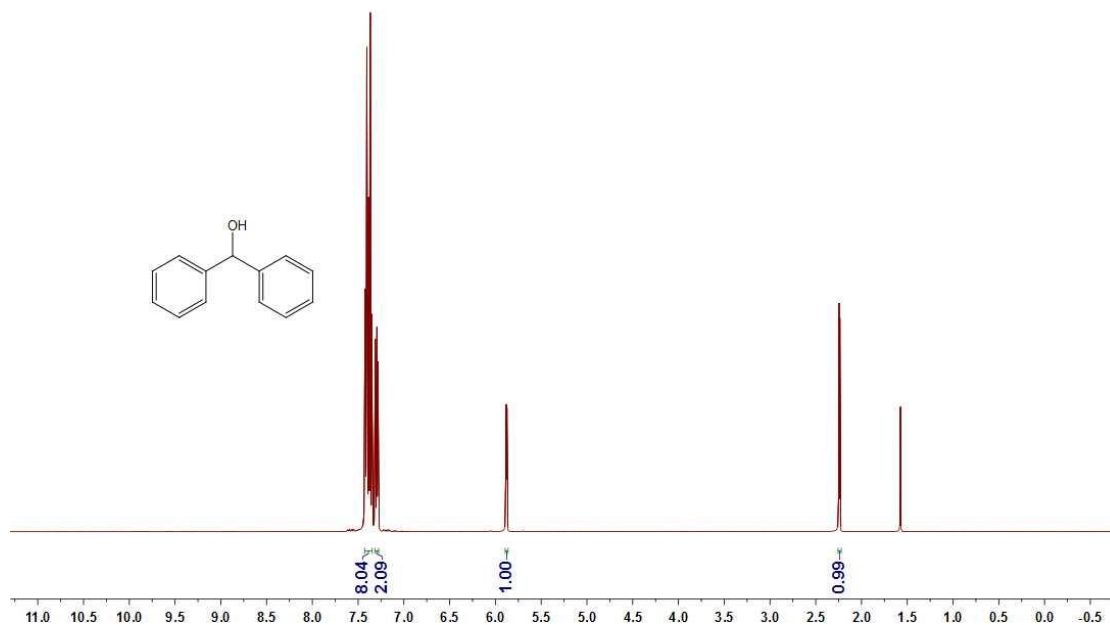
III. References

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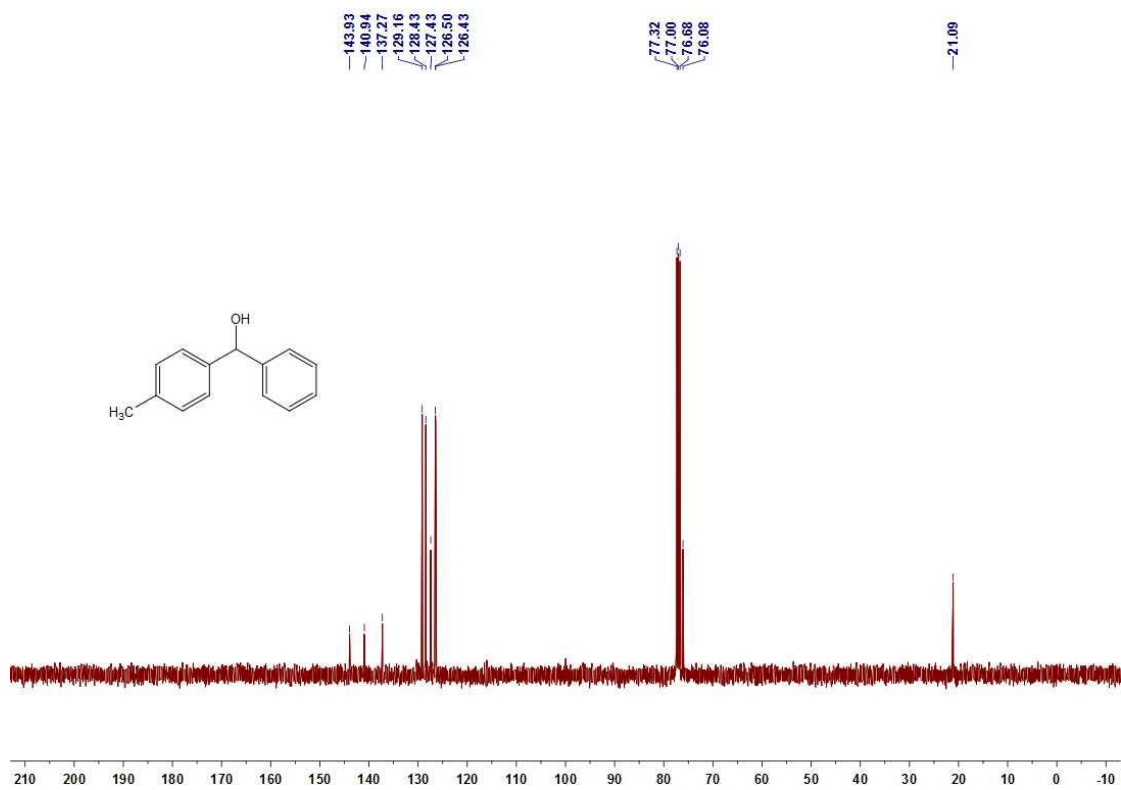
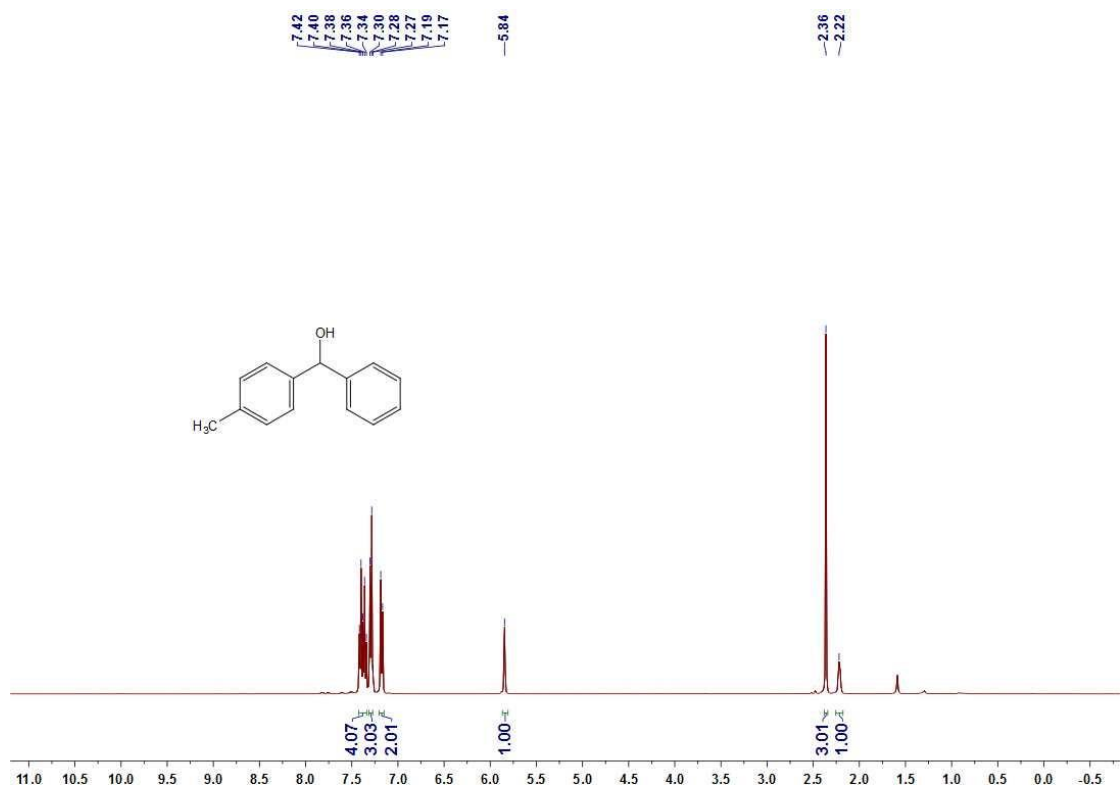
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IV. Copies of ^1H NMR, and ^{13}C NMR

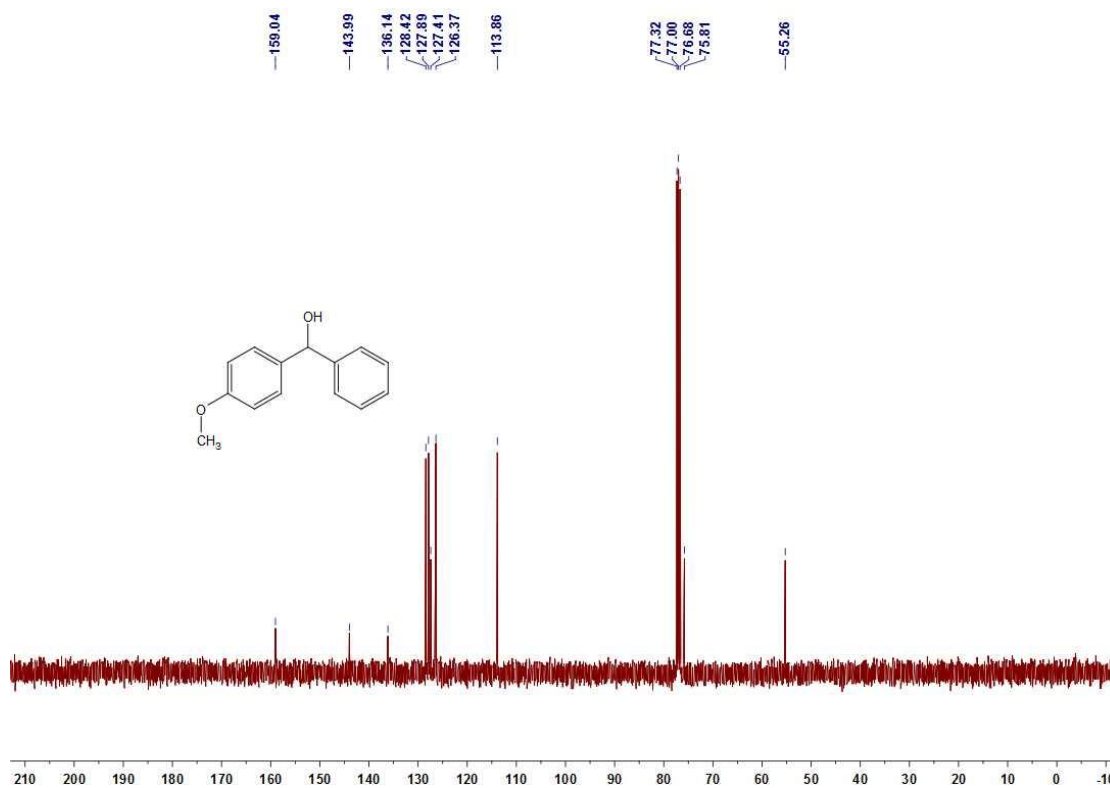
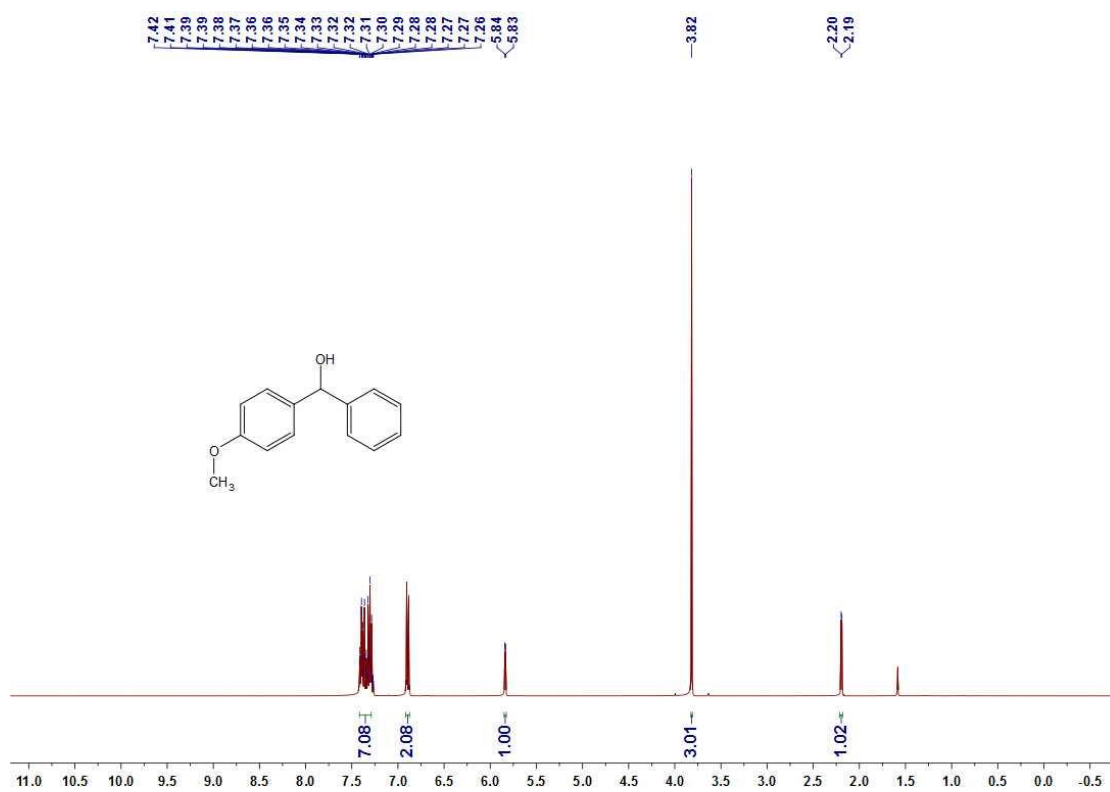
^1H and ^{13}C NMR spectra of **diphenylmethanol**



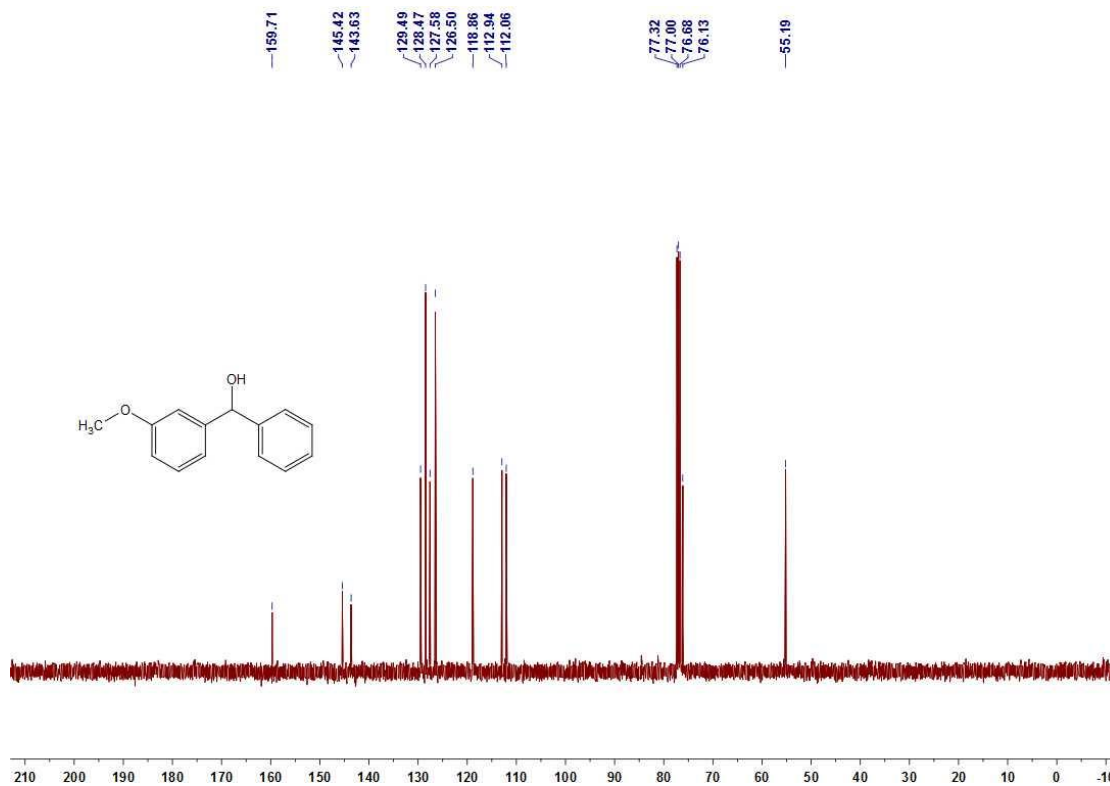
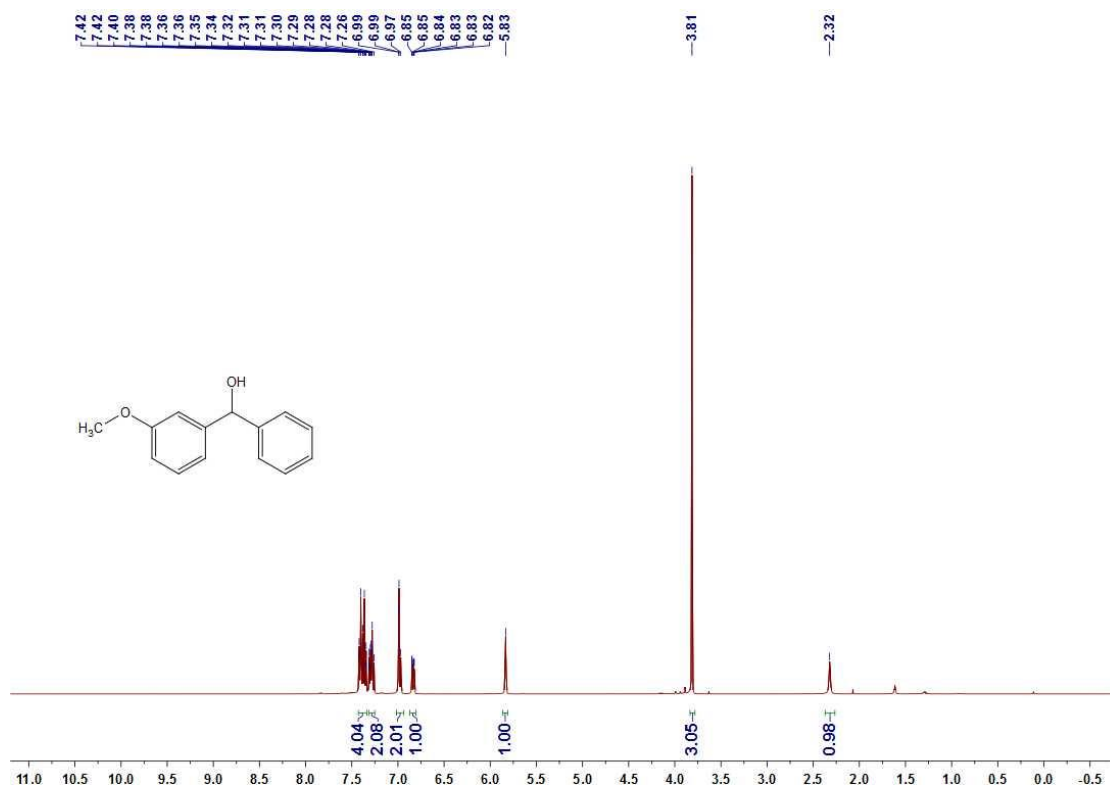
^1H and ^{13}C NMR spectra of phenyl(p-tolyl)methanol



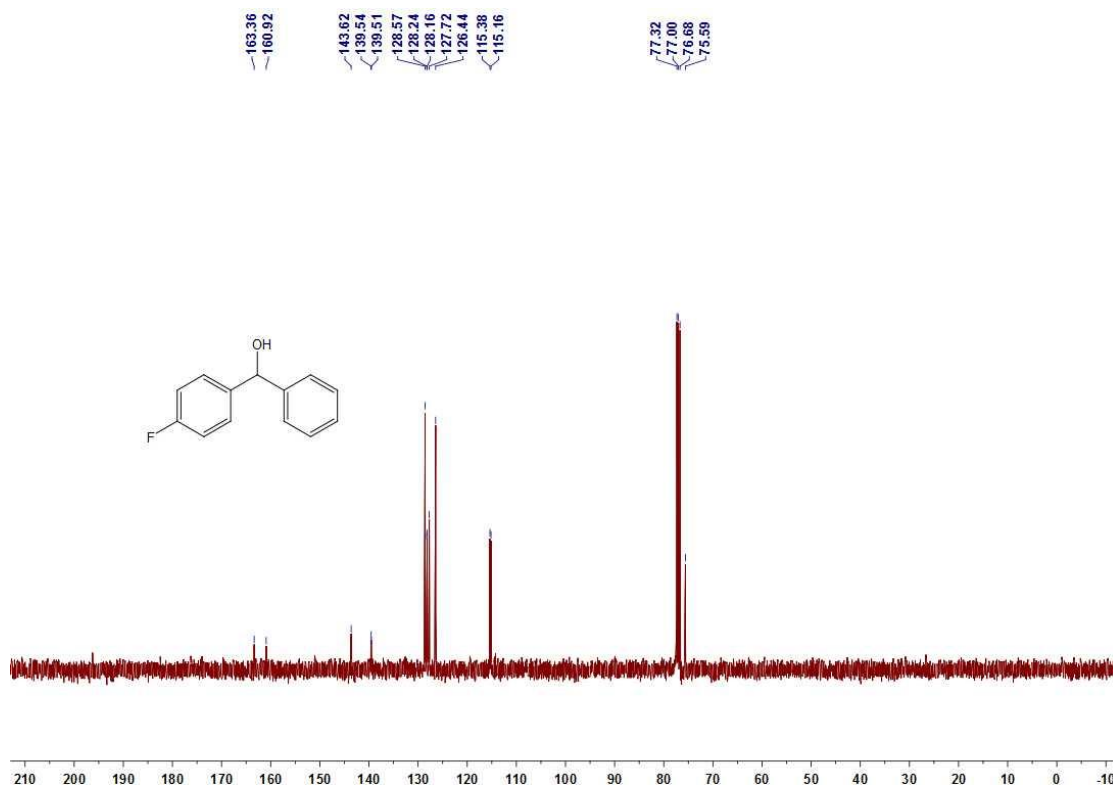
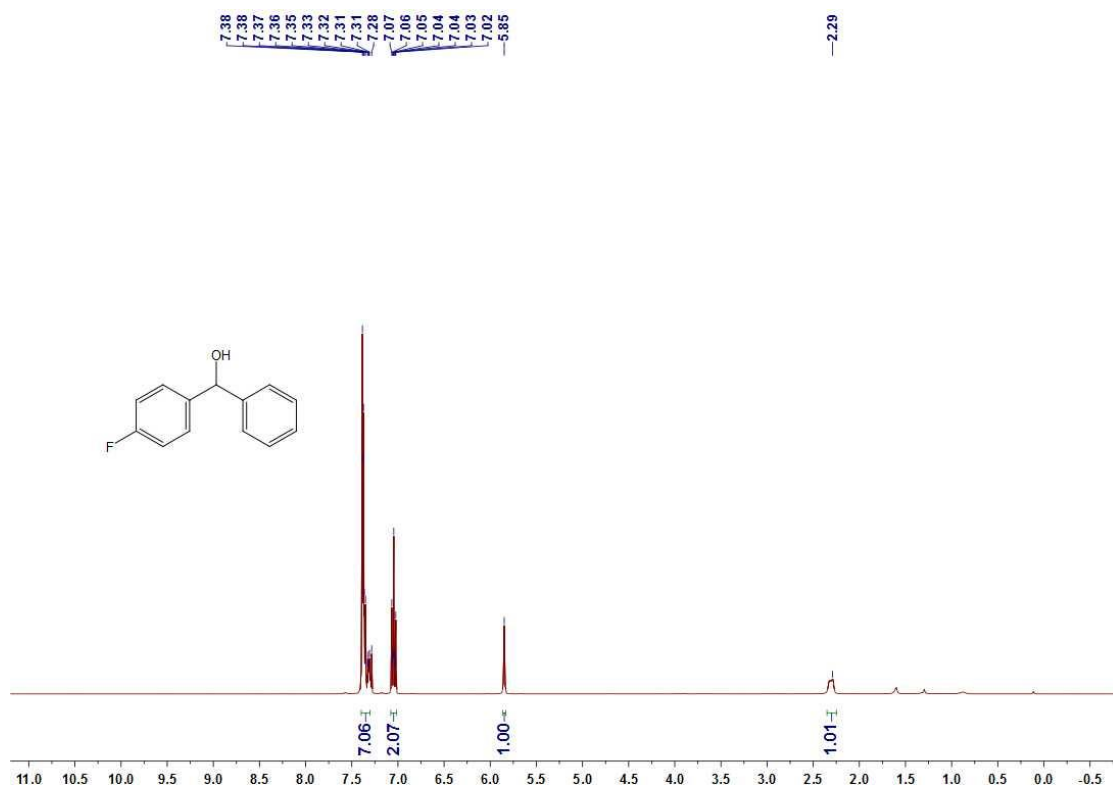
^1H and ^{13}C NMR spectra of (4-methoxyphenyl)(phenyl)methanol



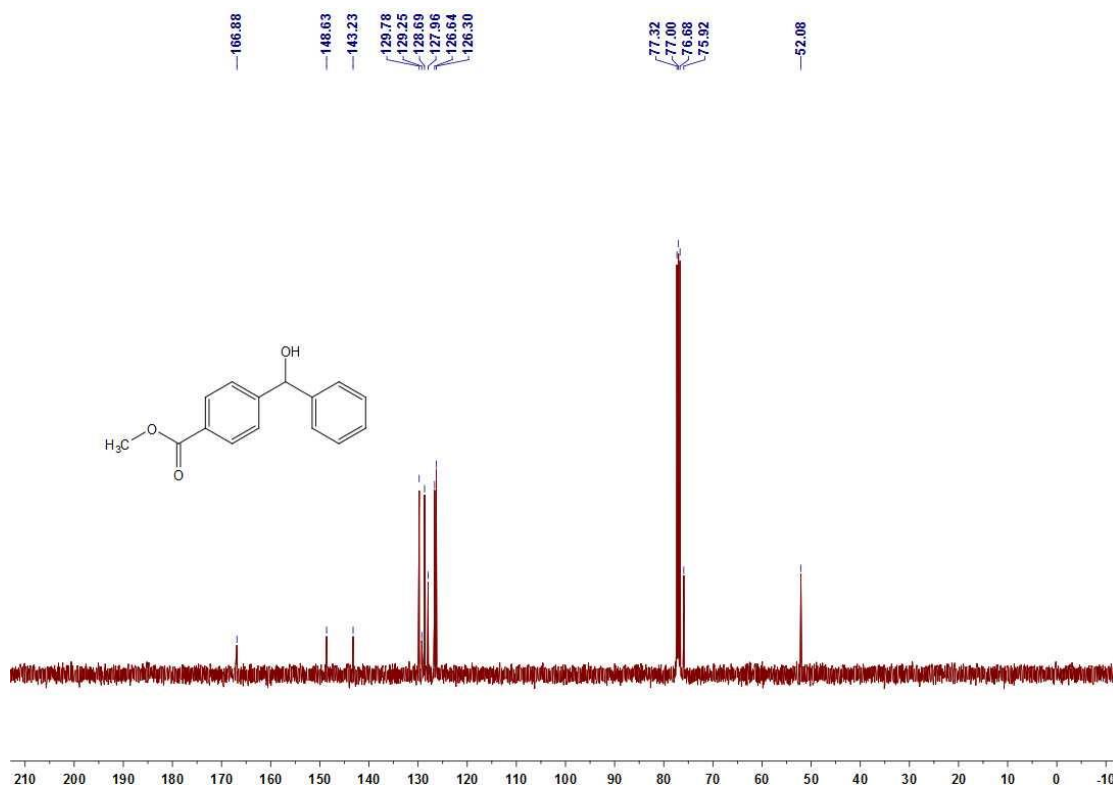
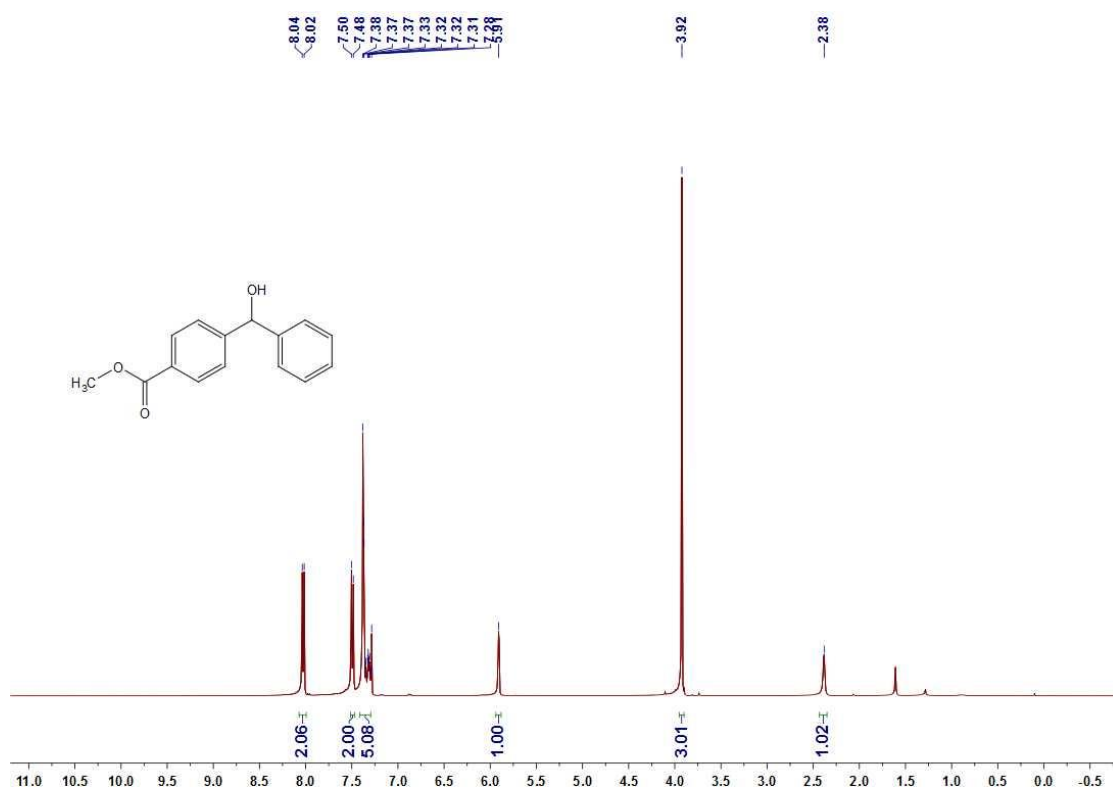
^1H and ^{13}C NMR spectra of (3-methoxyphenyl)(phenyl)methanol



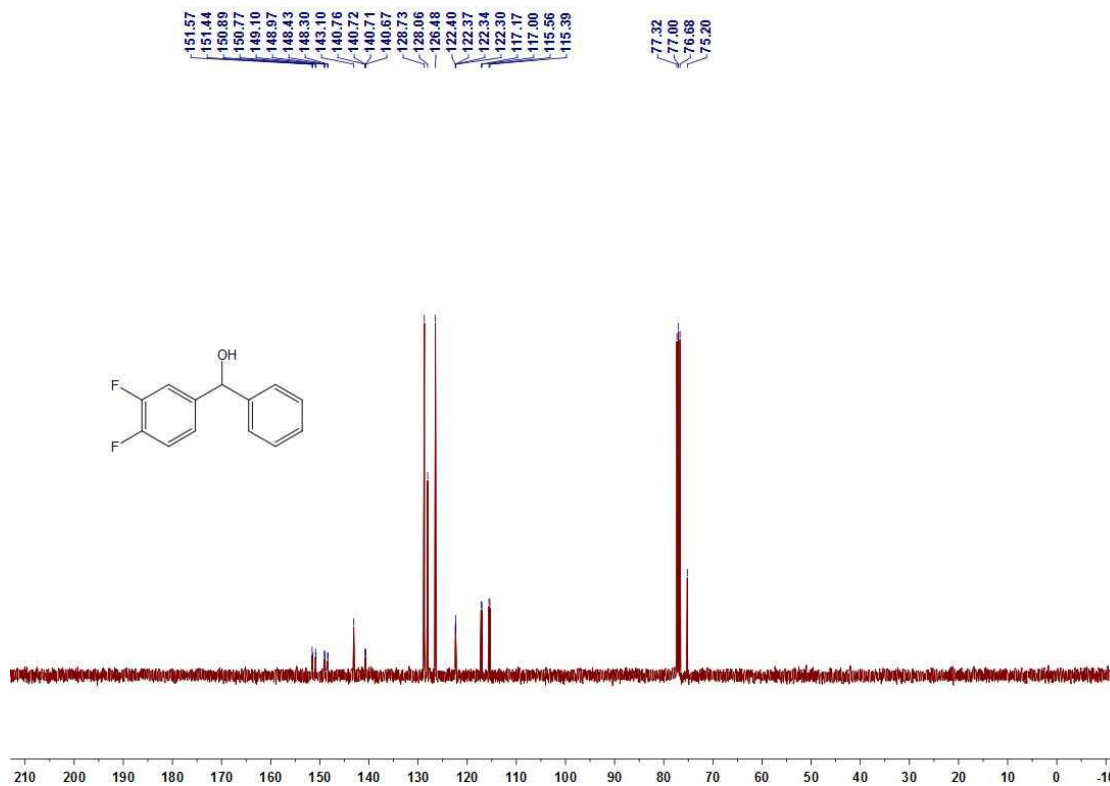
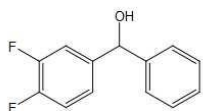
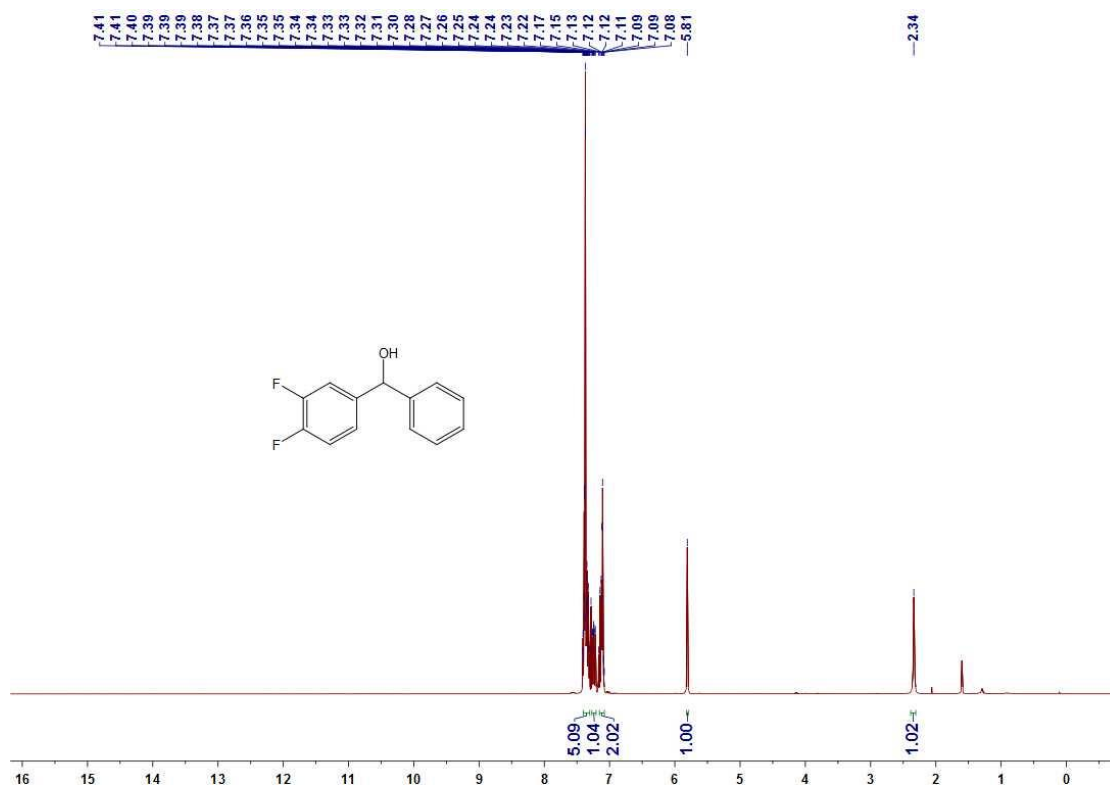
^1H and ^{13}C NMR spectra of (4-fluorophenyl)(phenyl)methanol



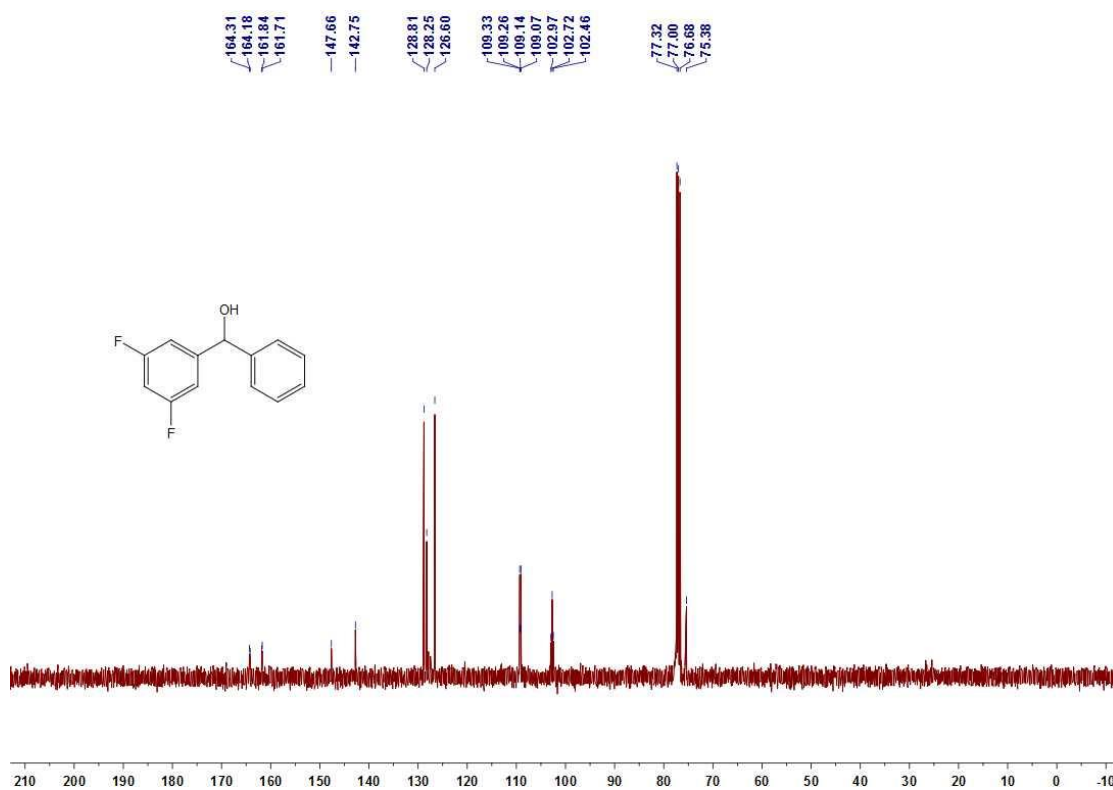
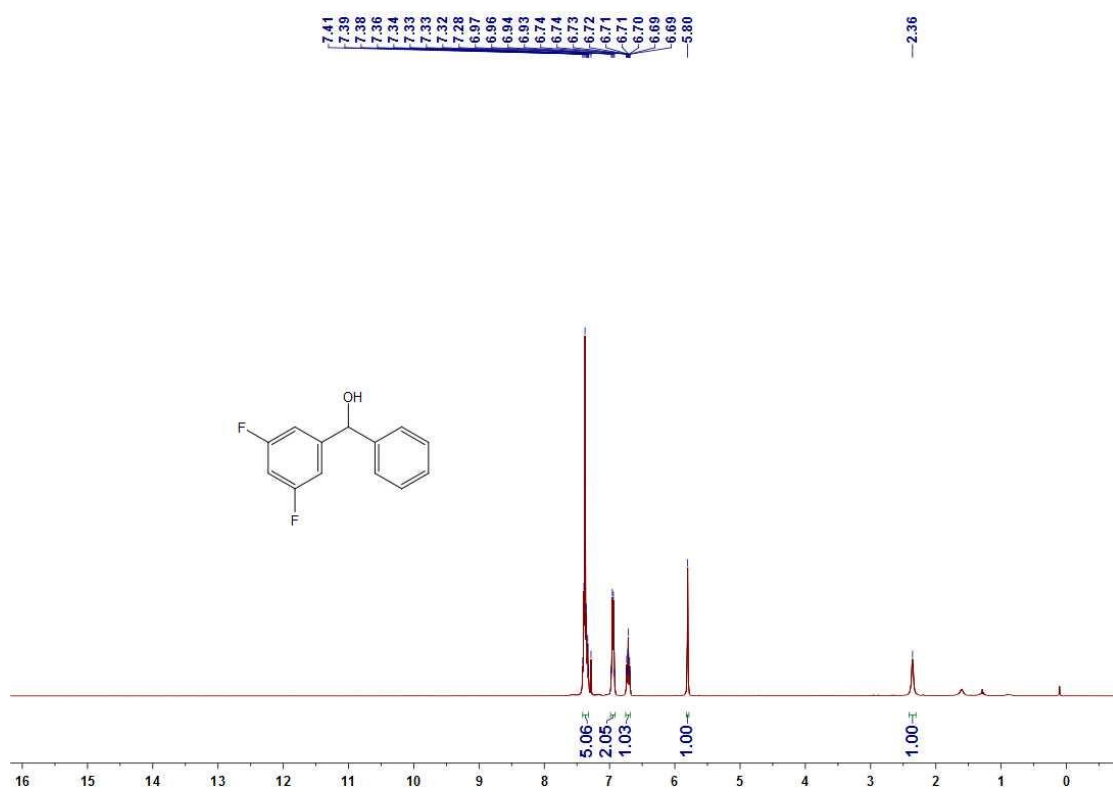
¹H and ¹³C NMR spectra of methyl 4-(hydroxy(phenyl)methyl)benzoate



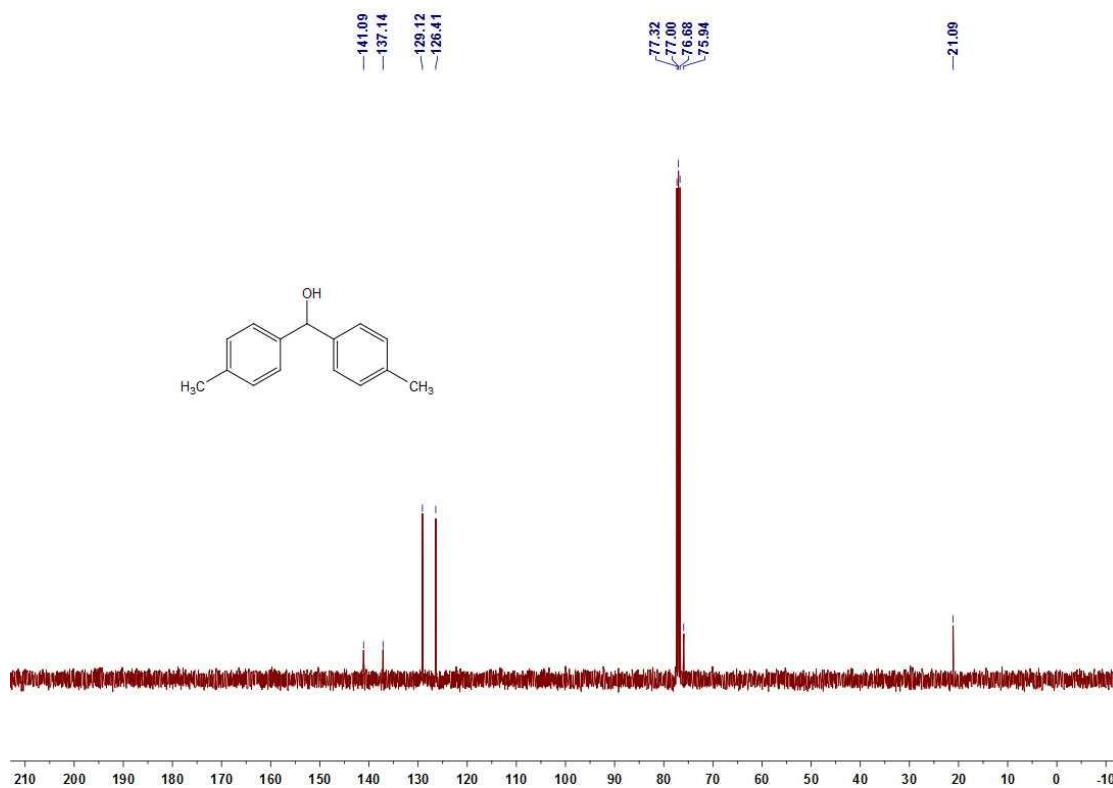
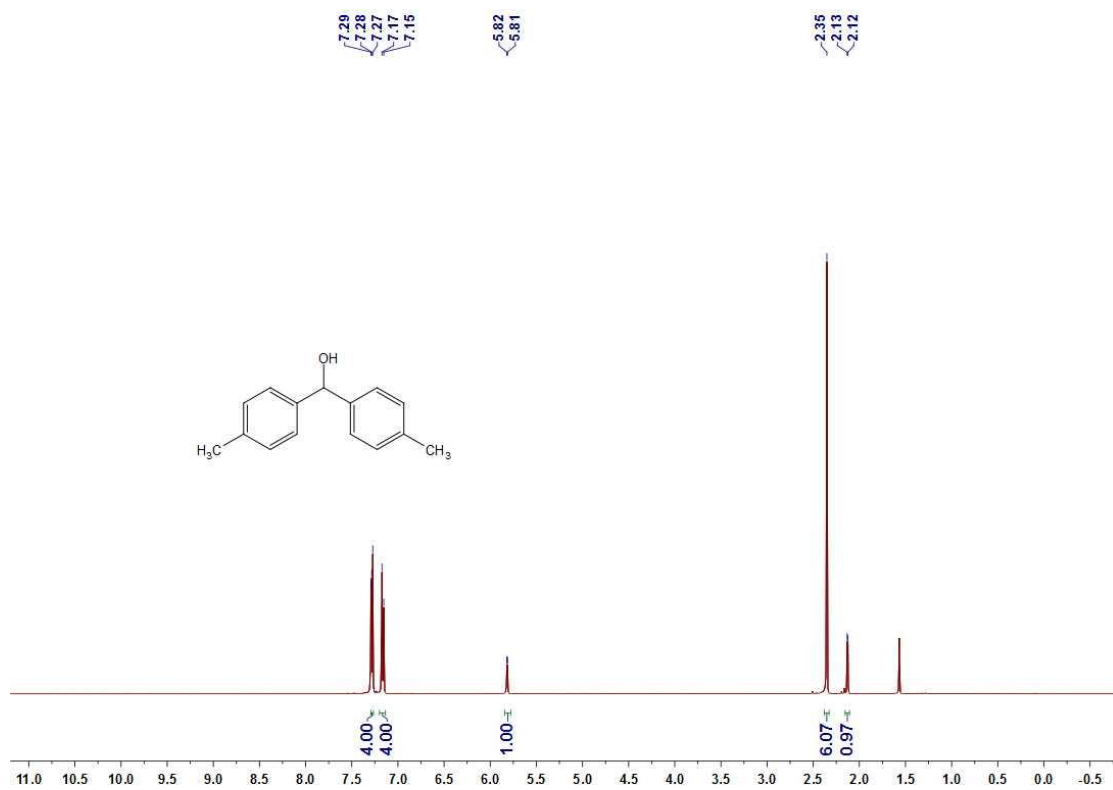
¹H and ¹³C NMR spectra of (3,4-difluorophenyl)(phenyl)methanol



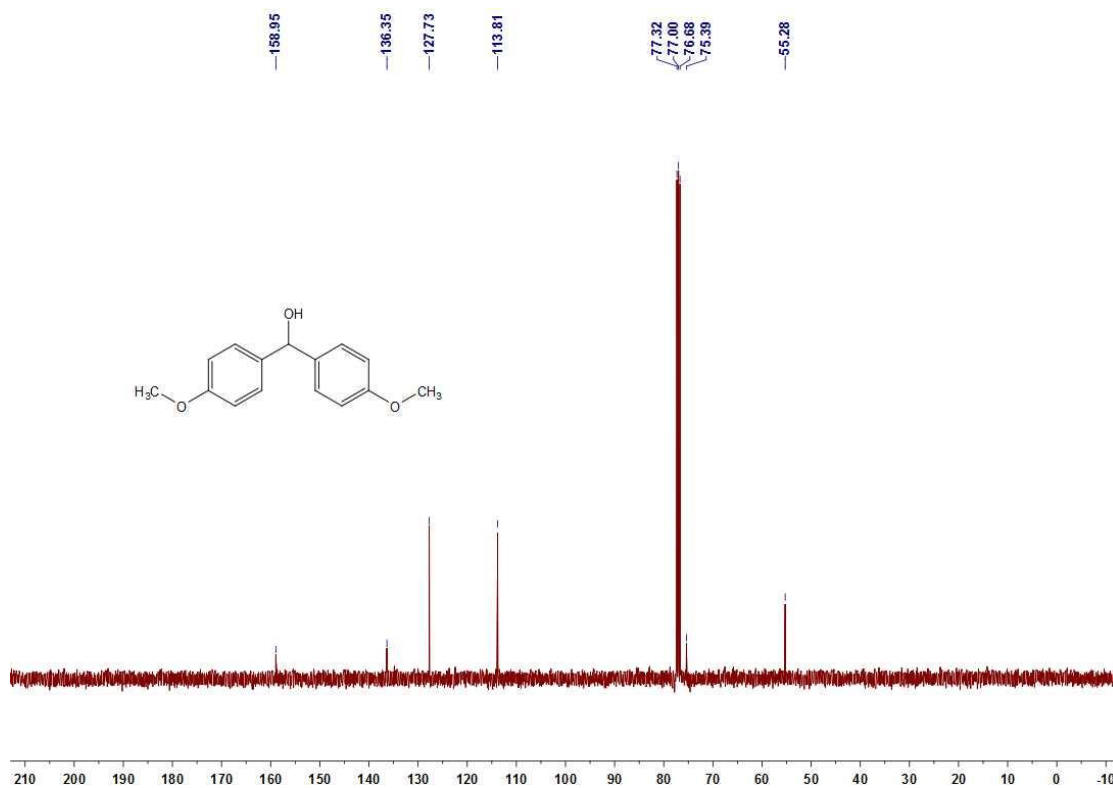
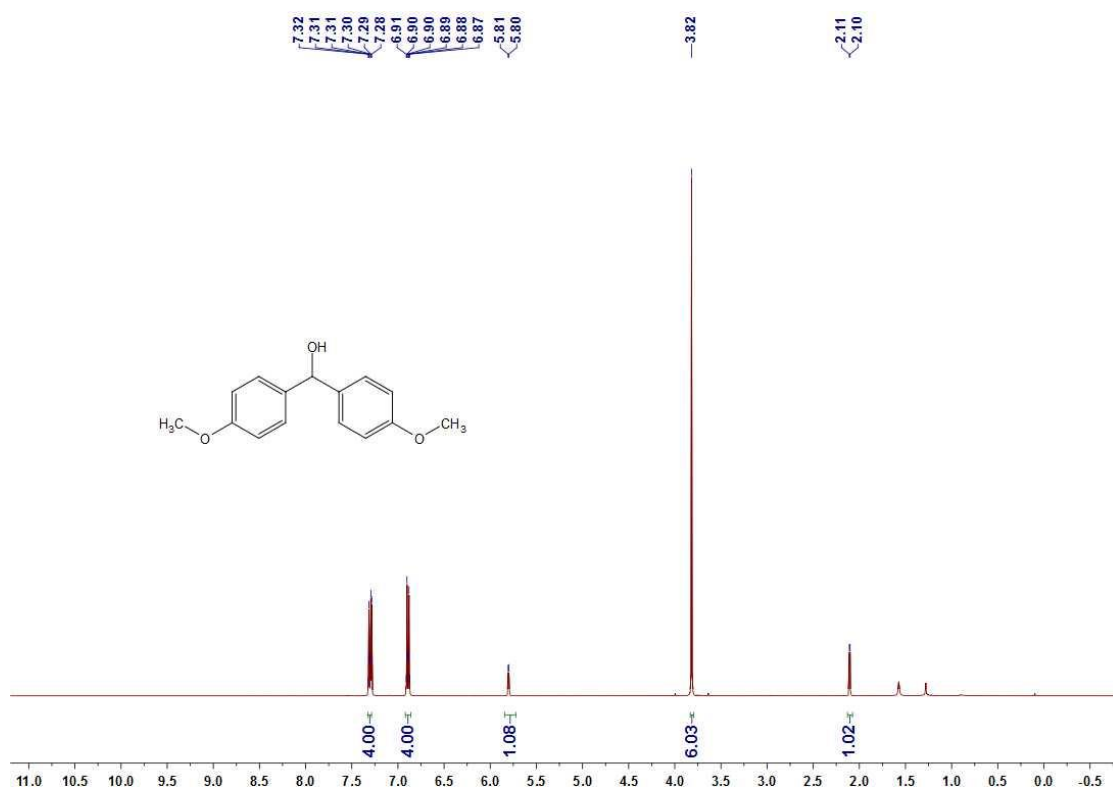
¹H and ¹³C NMR spectra of (3,5-difluorophenyl)(phenyl)methanol



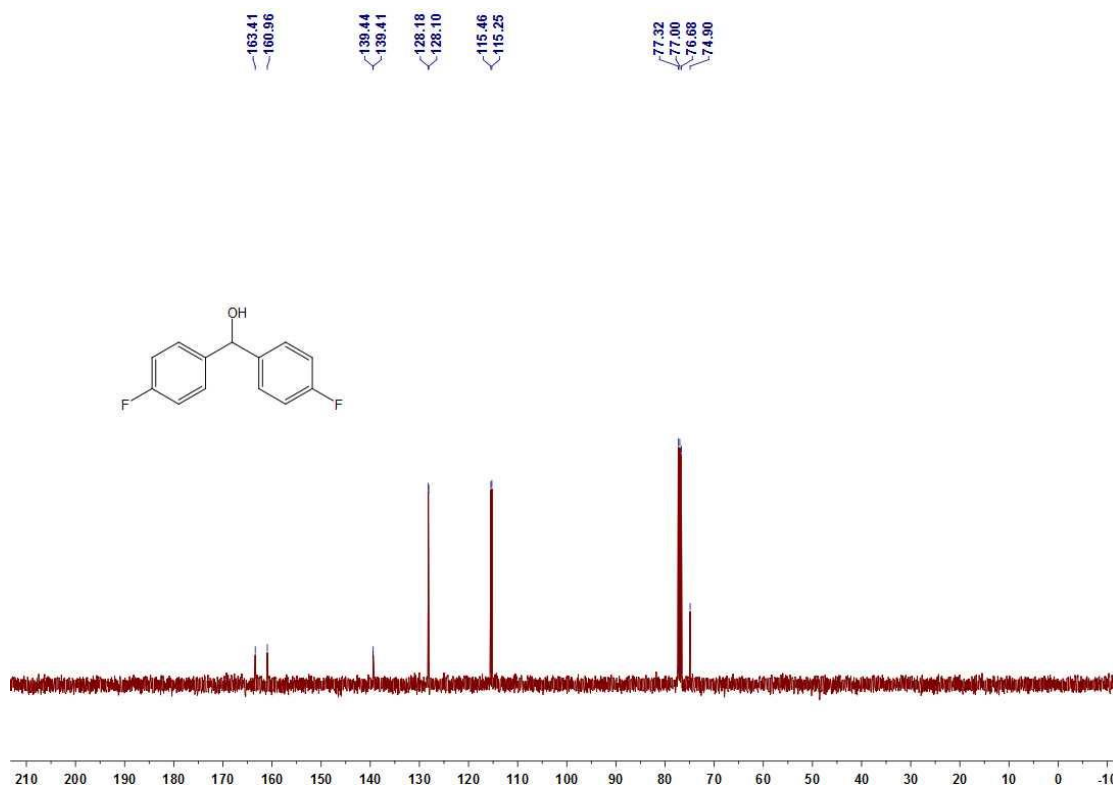
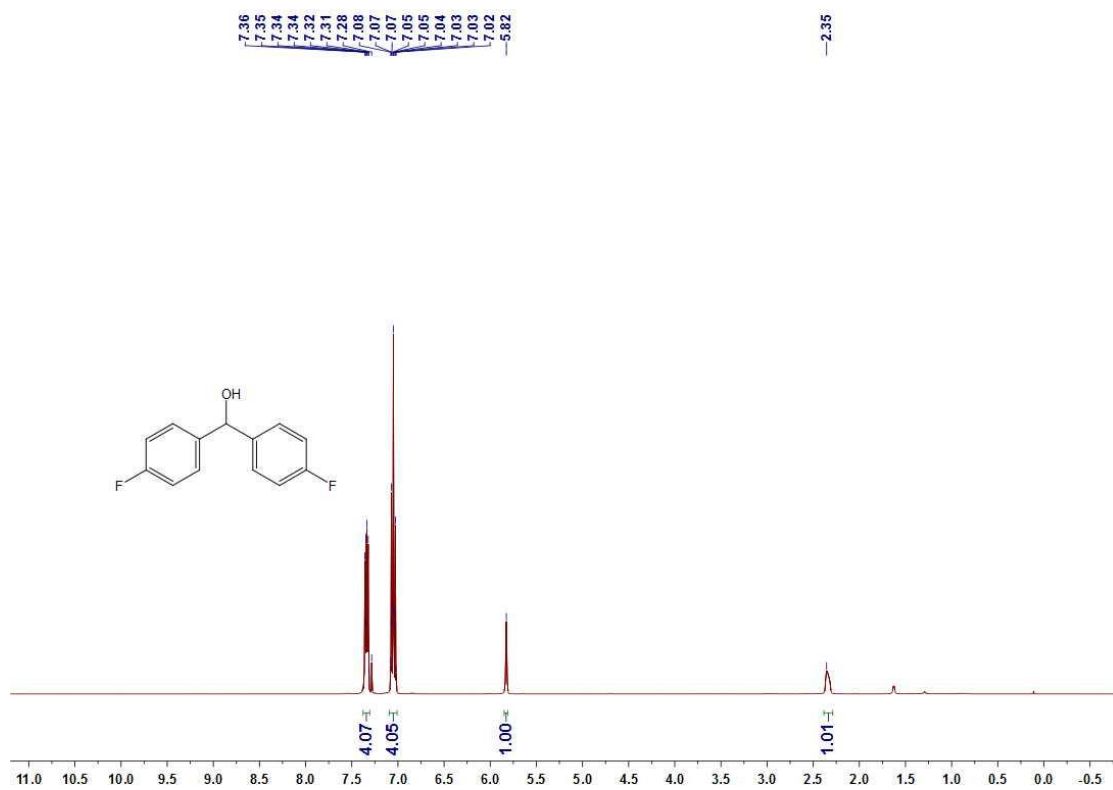
¹H and ¹³C NMR spectra of di-p-tolylmethanol



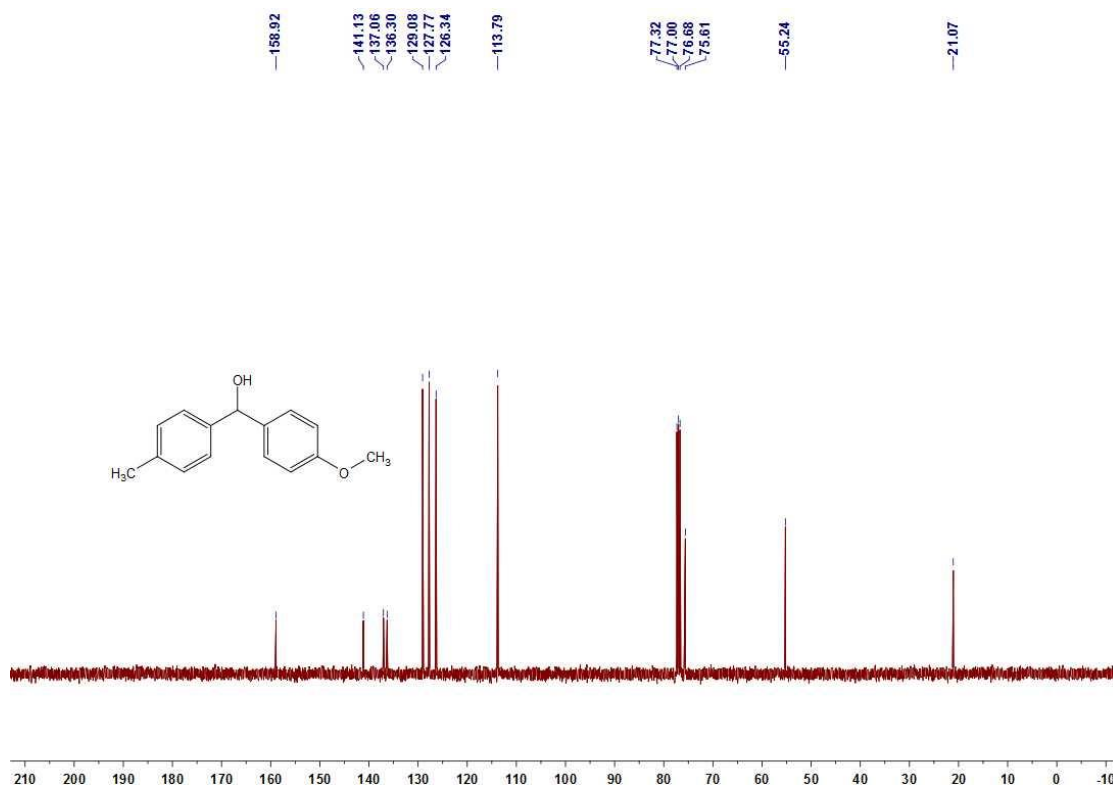
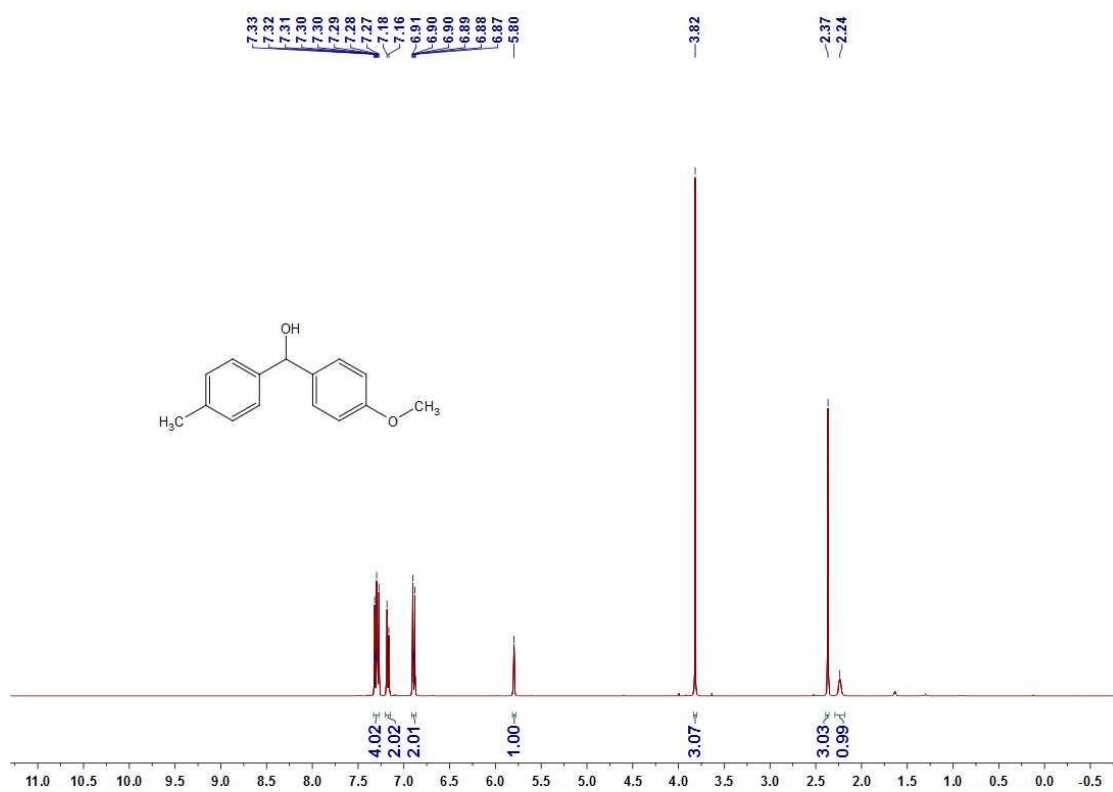
^1H and ^{13}C NMR spectra of bis(4-methoxyphenyl)methanol



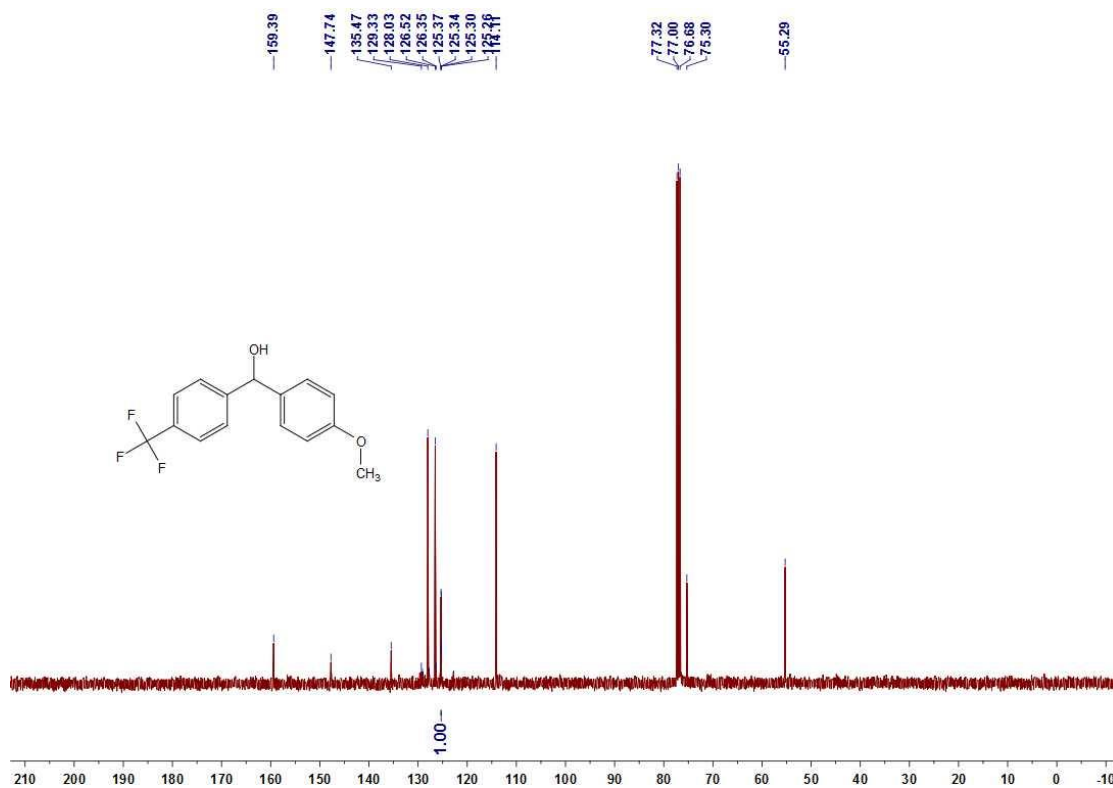
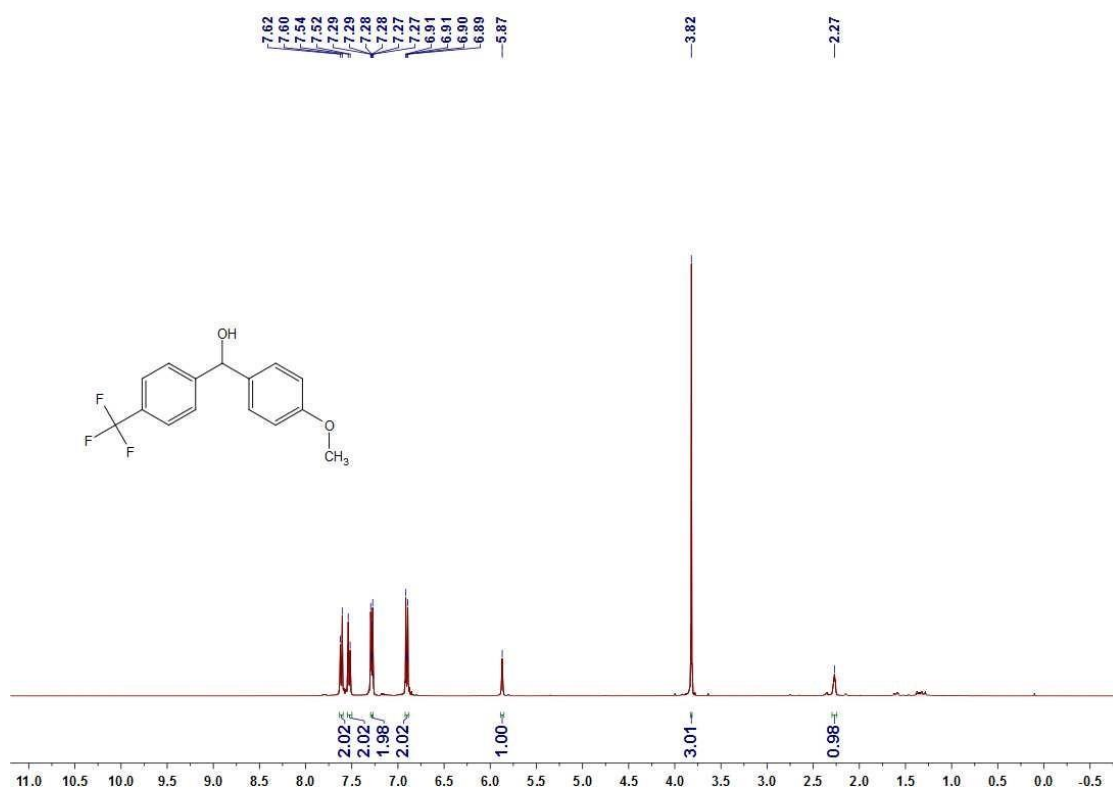
¹H and ¹³C NMR spectra of bis(4-fluorophenyl)methanol



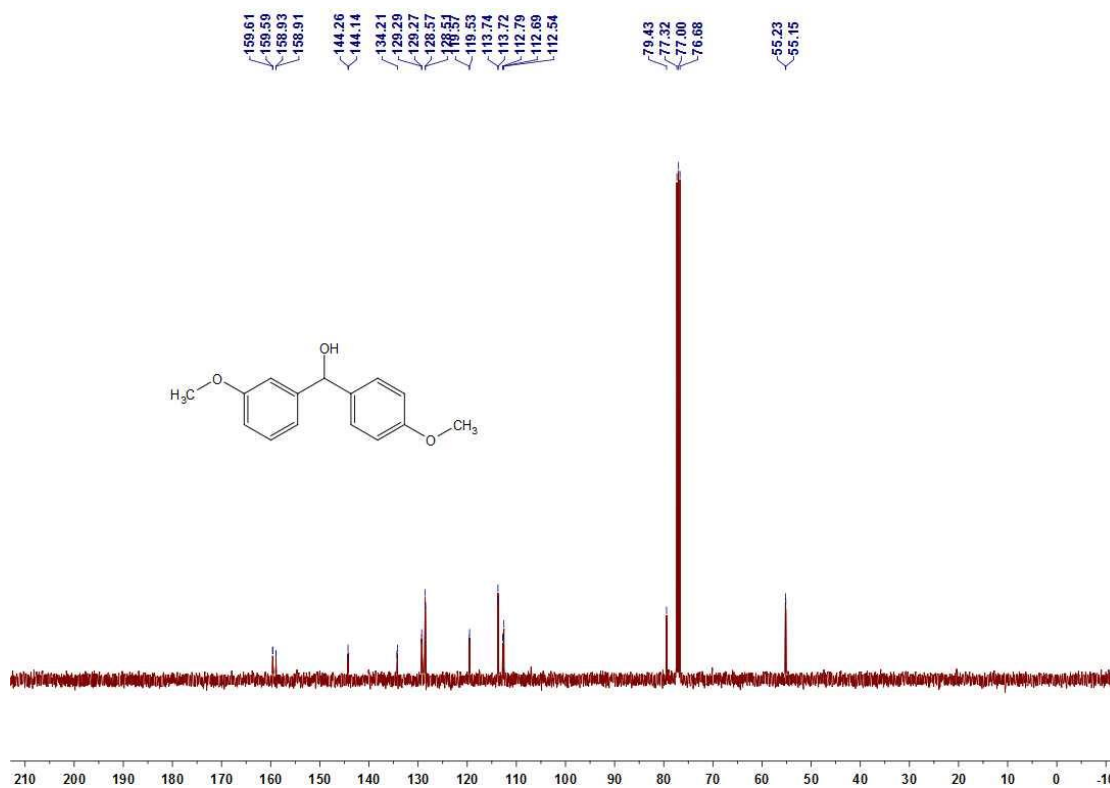
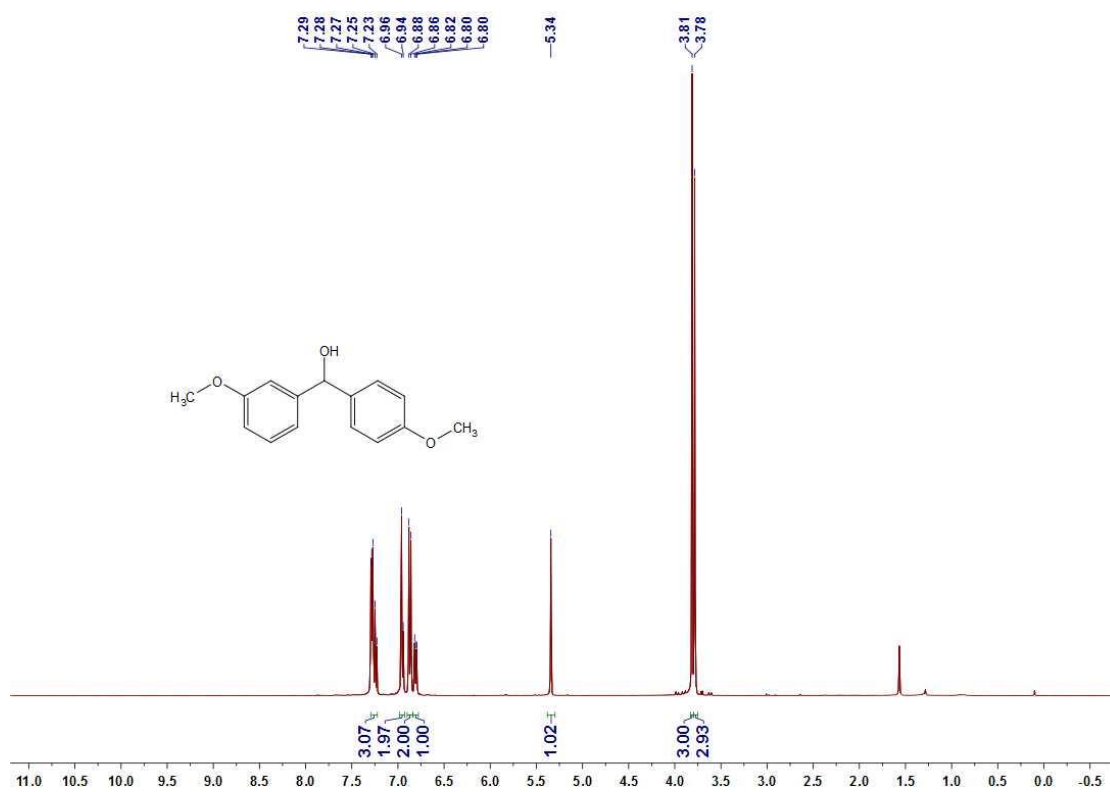
¹H and ¹³C NMR spectra of (4-methoxyphenyl)(p-tolyl)methanol



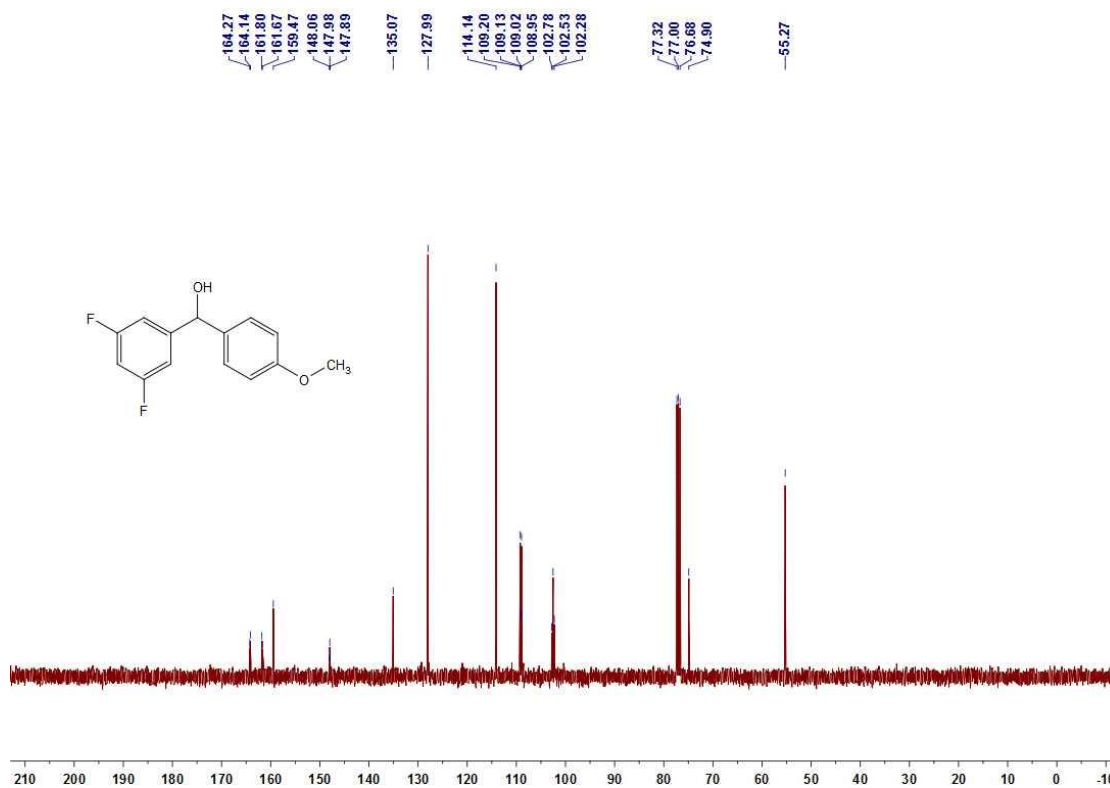
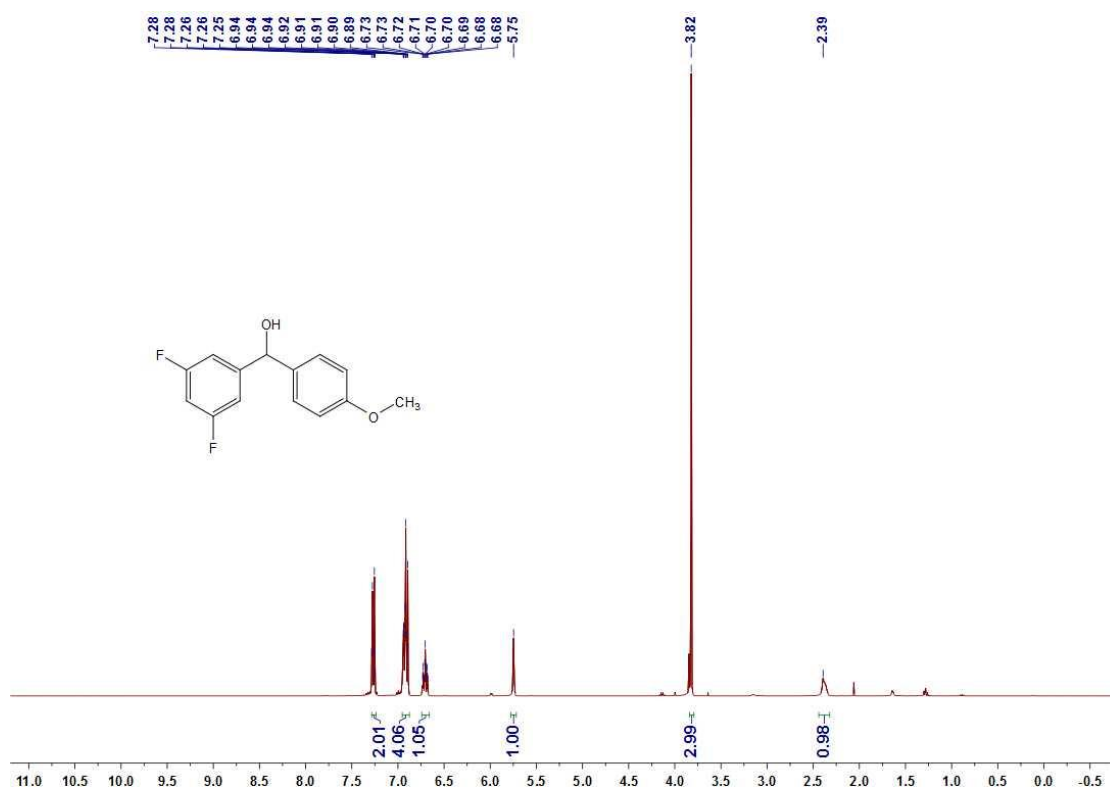
¹H and ¹³C NMR spectra of (4-methoxyphenyl)(4-(trifluoromethyl)phenyl)methanol



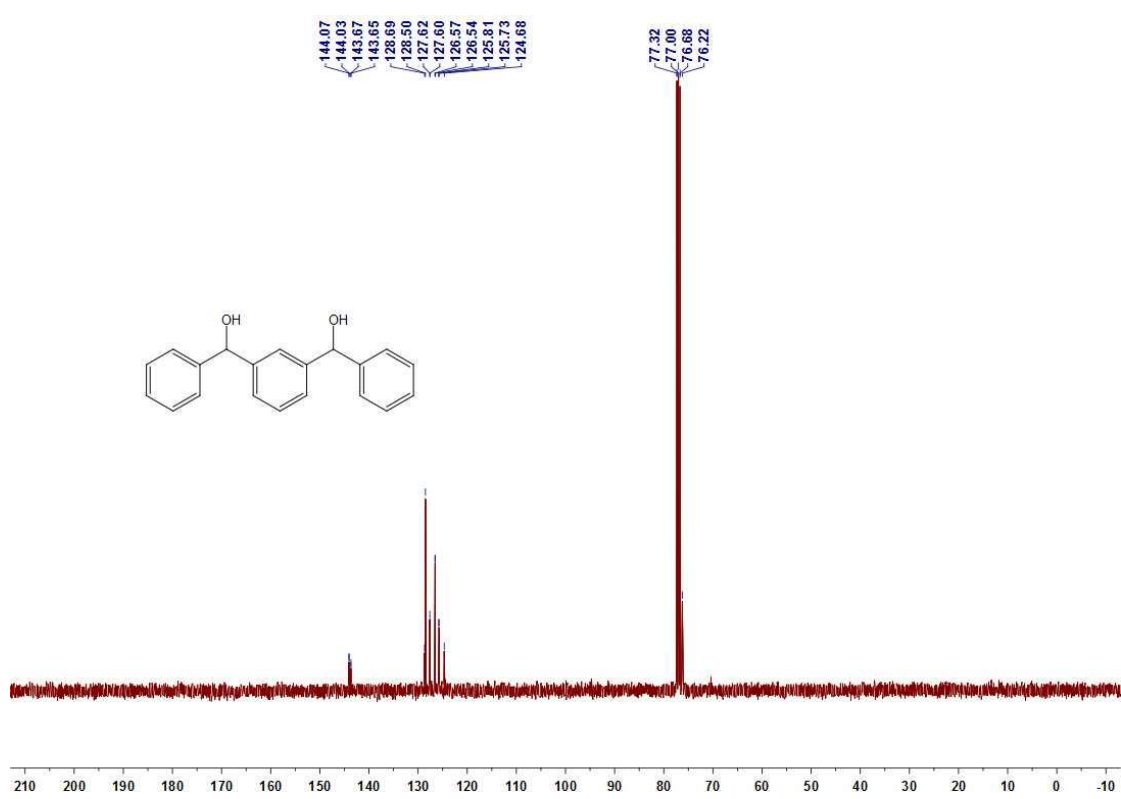
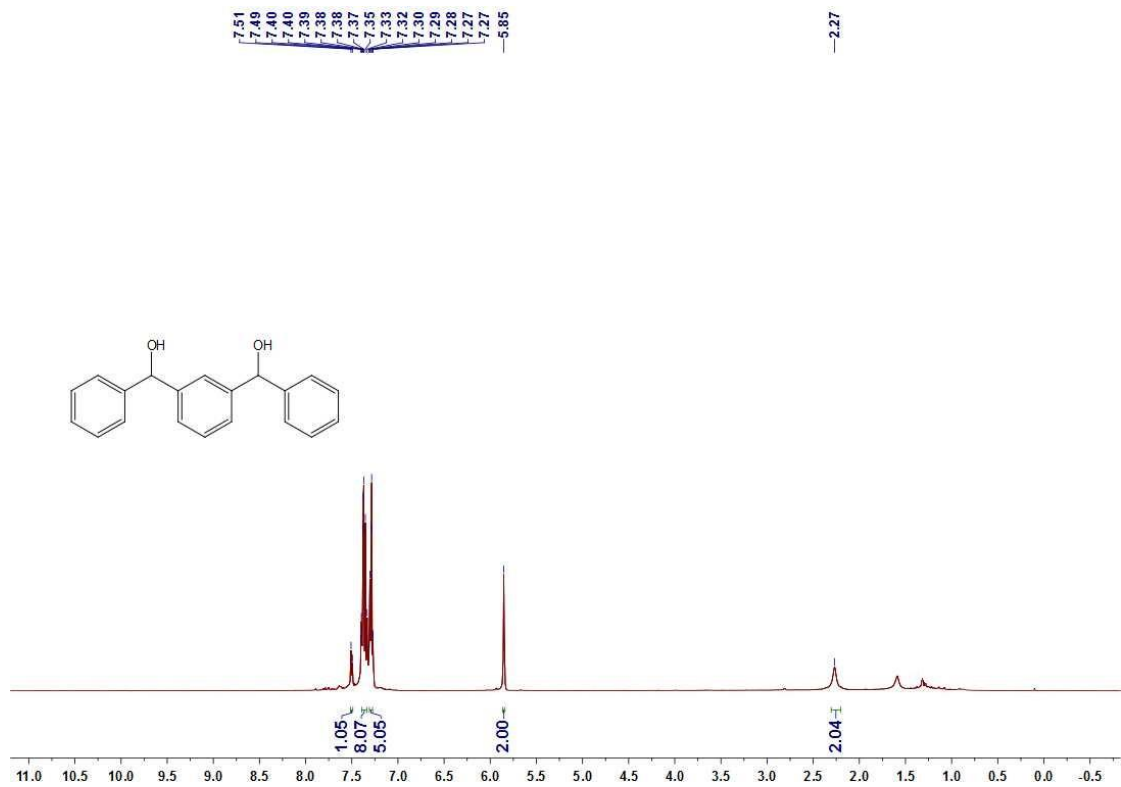
¹H and ¹³C NMR spectra of (3-methoxyphenyl)(4-methoxyphenyl)methanol



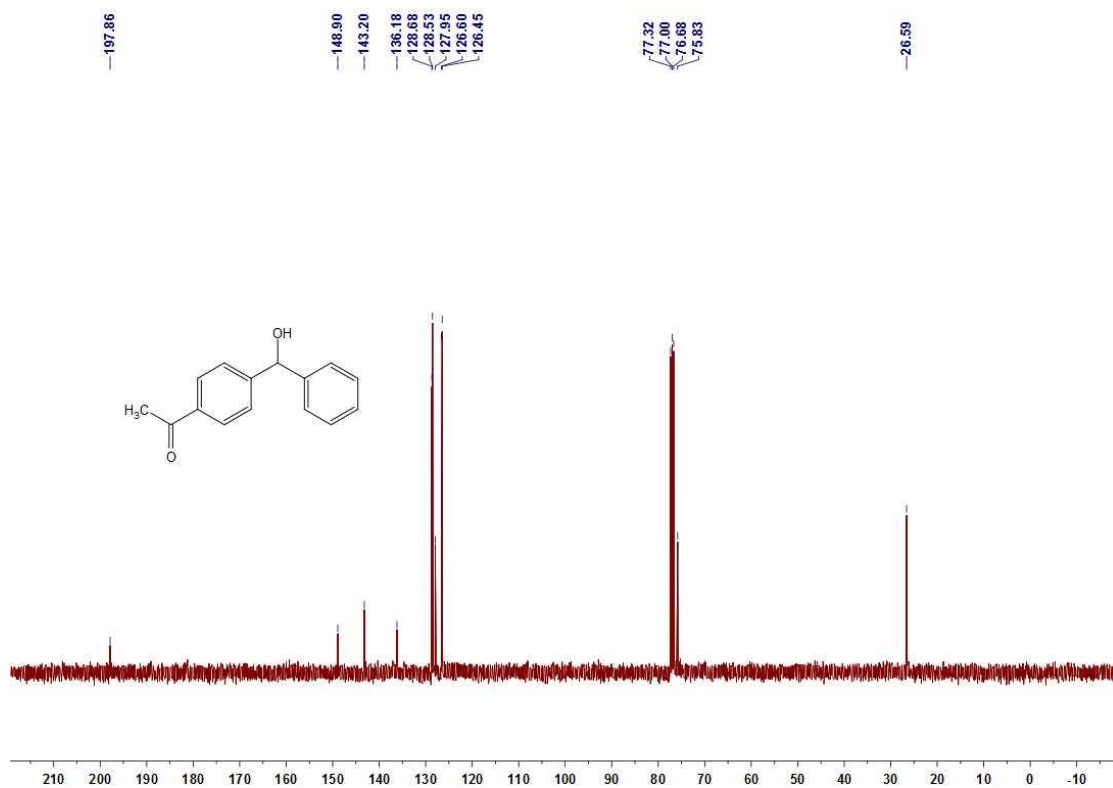
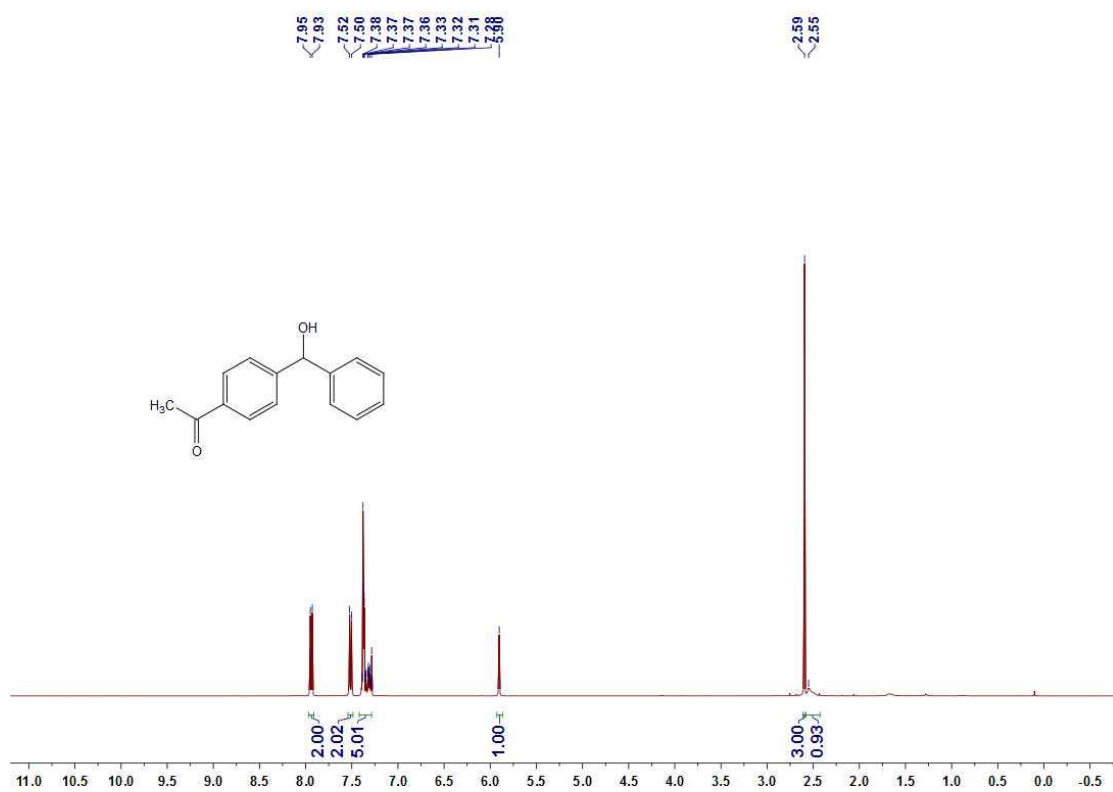
^1H and ^{13}C NMR spectra of (3,5-difluorophenyl)(4-methoxyphenyl)methanol



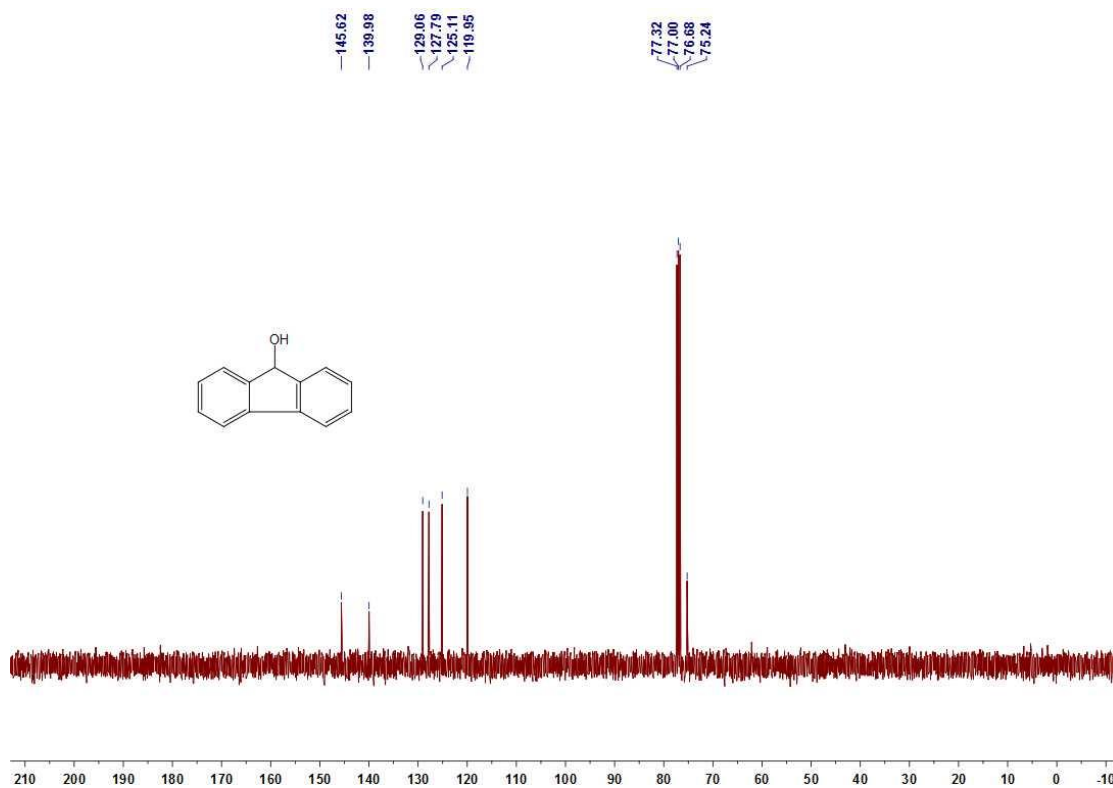
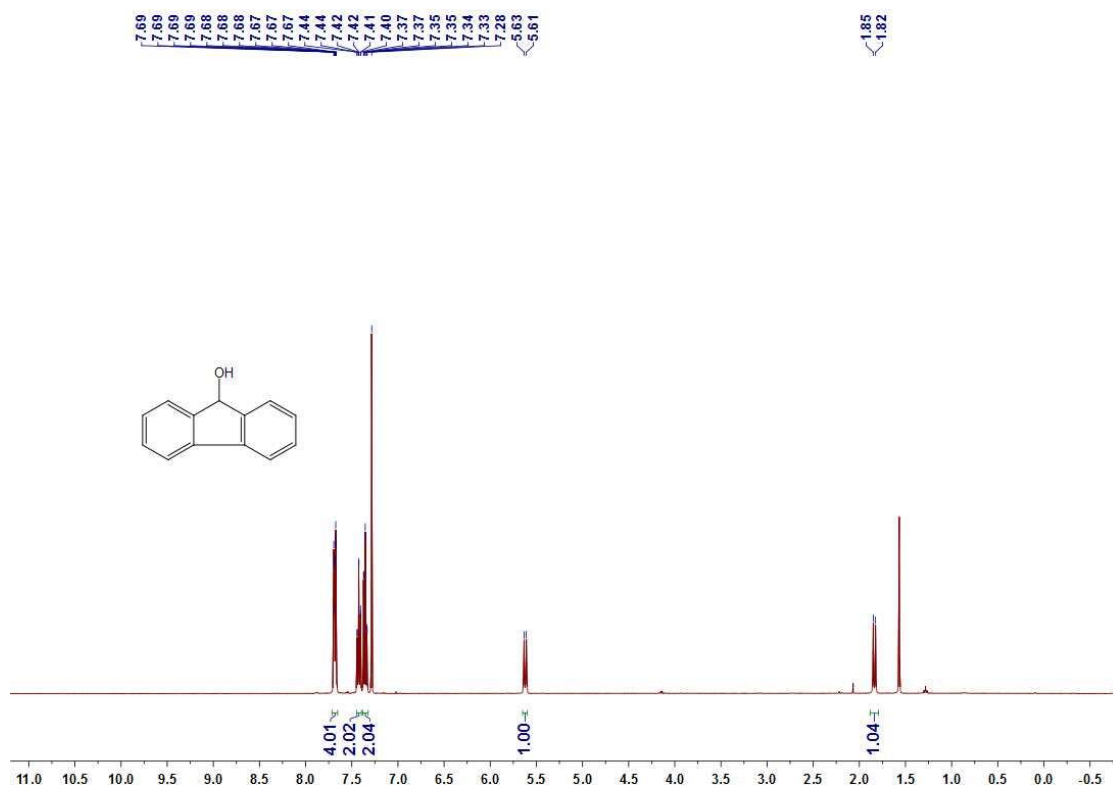
¹H and ¹³C NMR spectra of 1,3-phenylenebis(phenylmethanol)



¹H and ¹³C NMR spectra of 1-(4-(hydroxy(phenyl)methyl)phenyl)ethanone

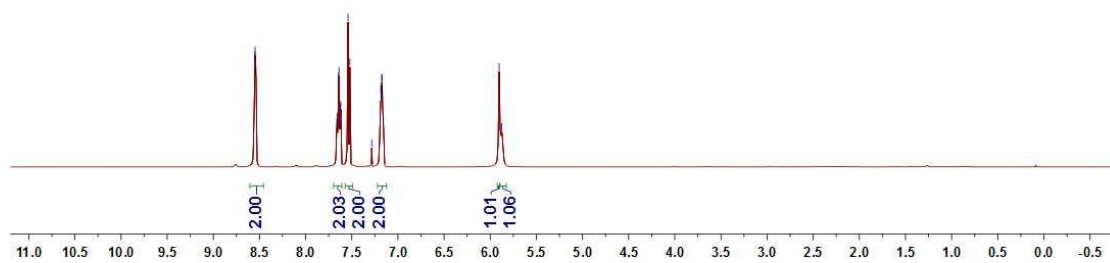
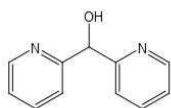


^1H and ^{13}C NMR spectra of 9H-fluoren-9-ol

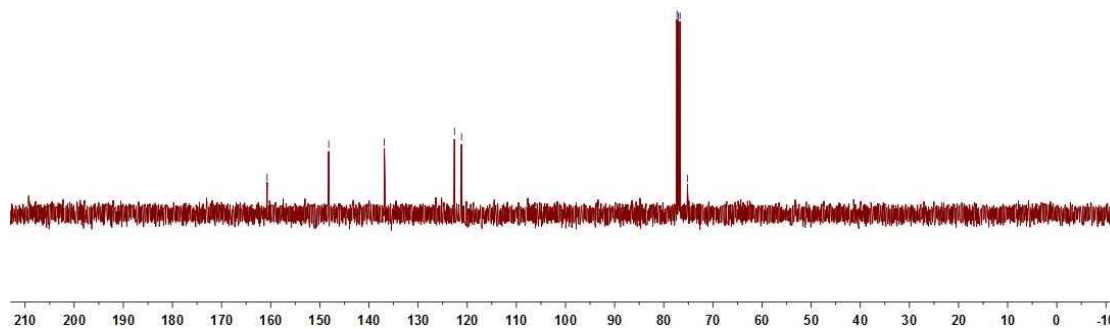
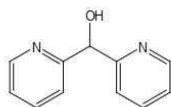


¹H and ¹³C NMR spectra of di(pyridin-2-yl)methanol

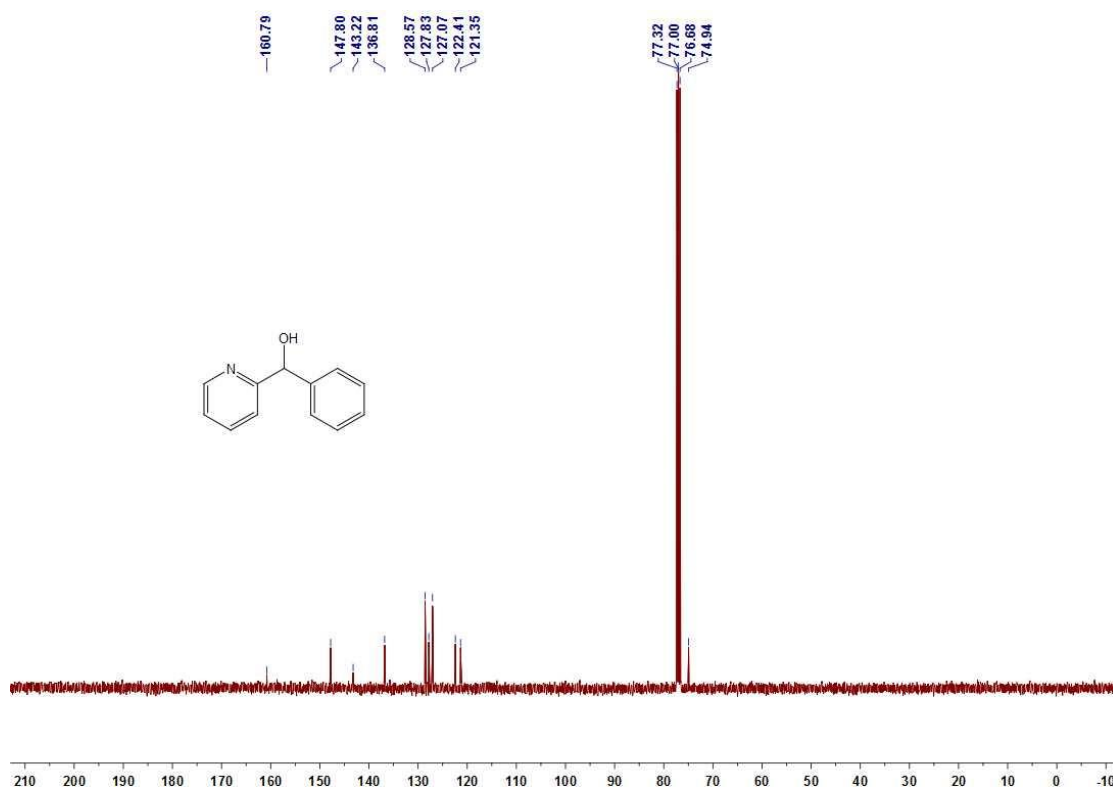
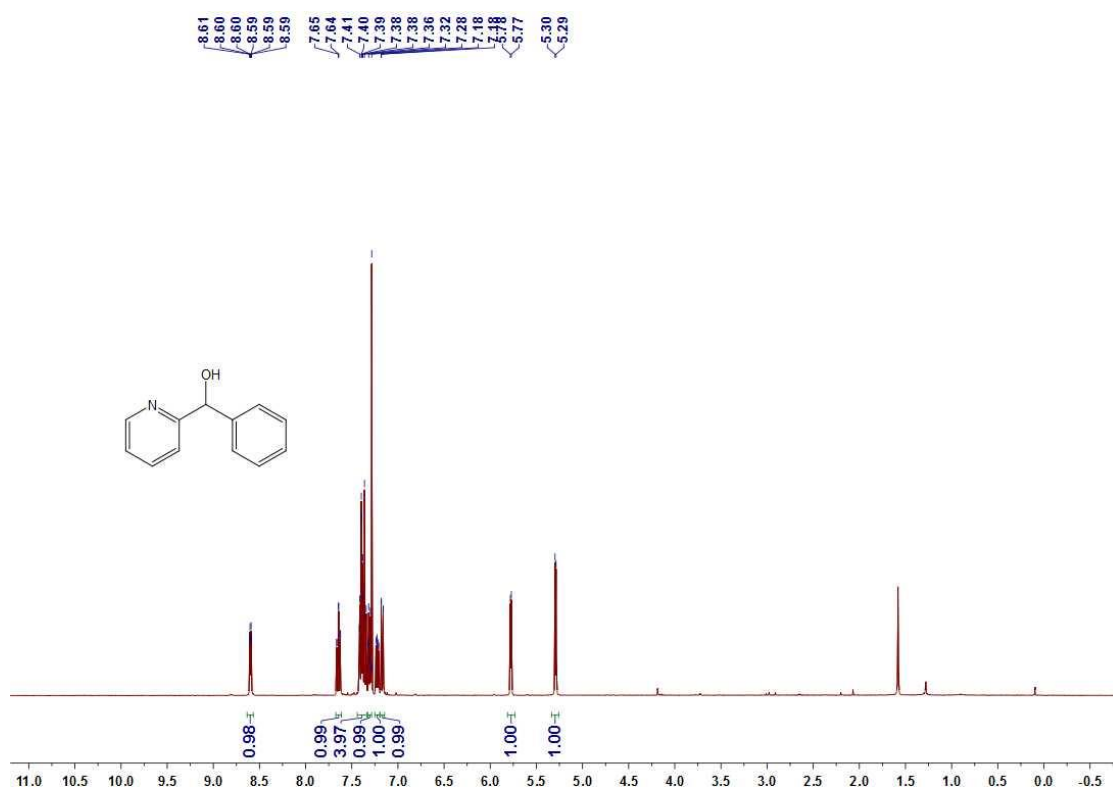
8.55
8.55
8.54
8.54
7.64
7.62
7.62
7.54
7.52
7.19
7.18
7.18
7.17
7.17
5.90
5.87



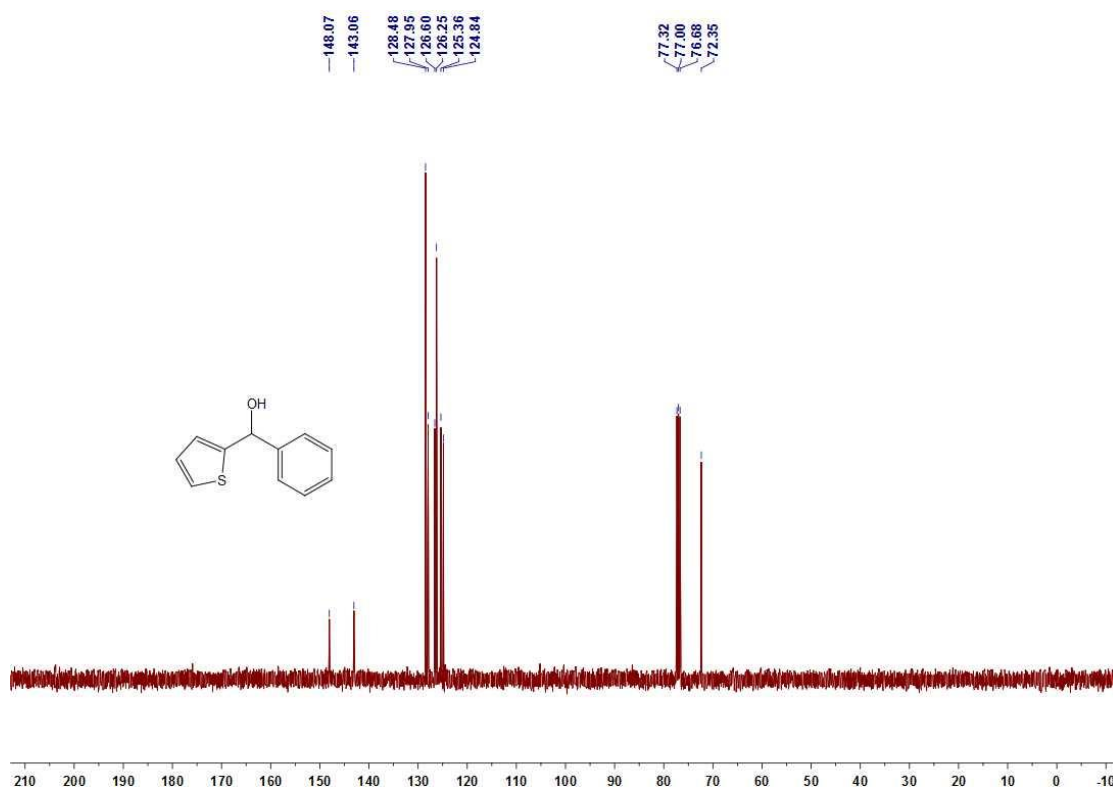
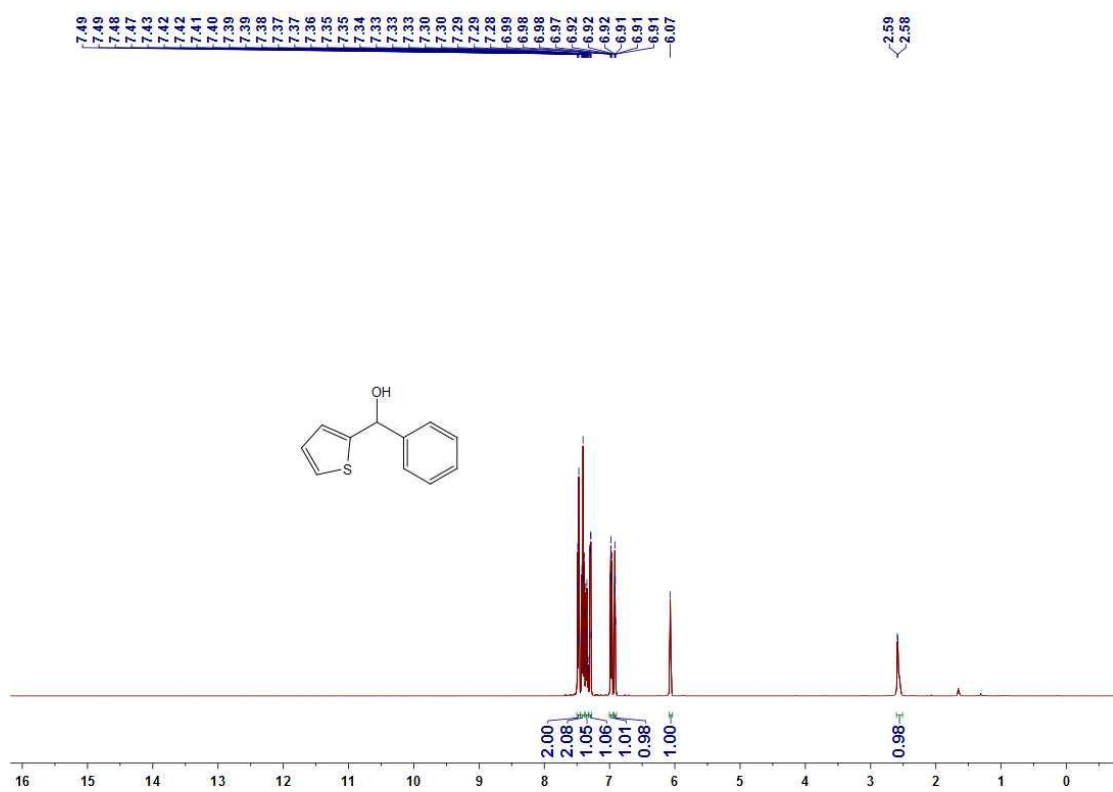
160.74
148.19
136.87
122.59
121.15
77.32
77.00
76.68
75.18



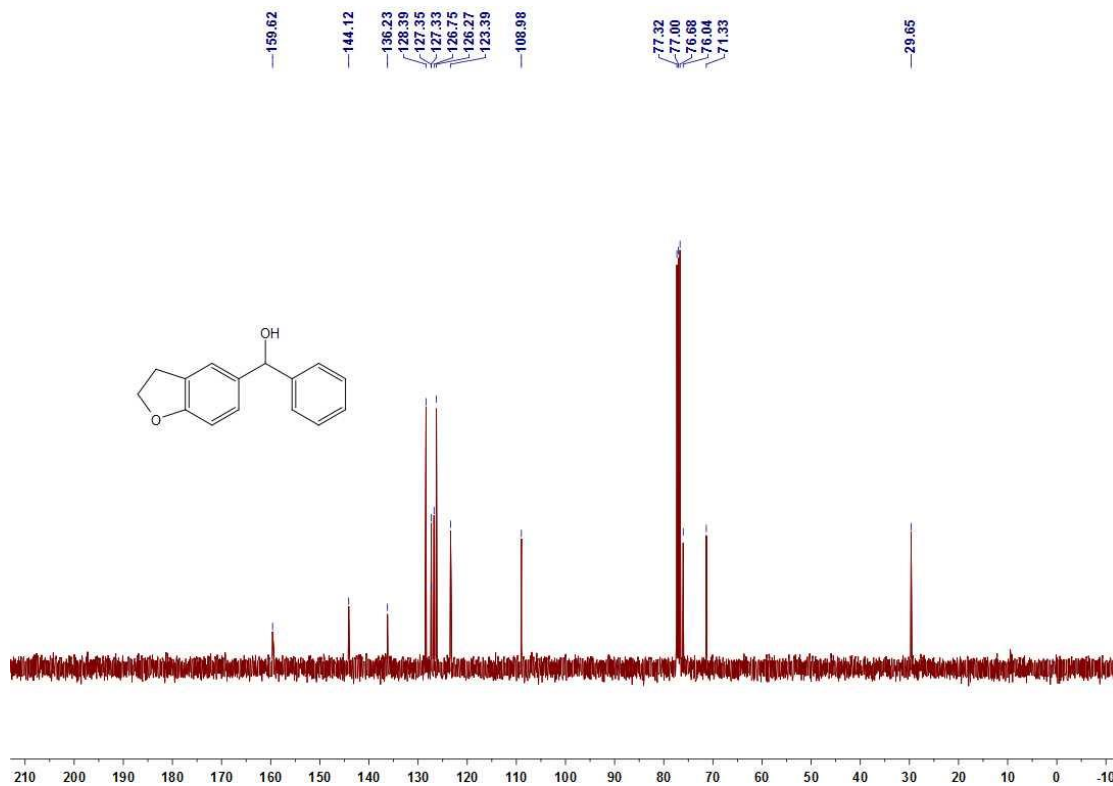
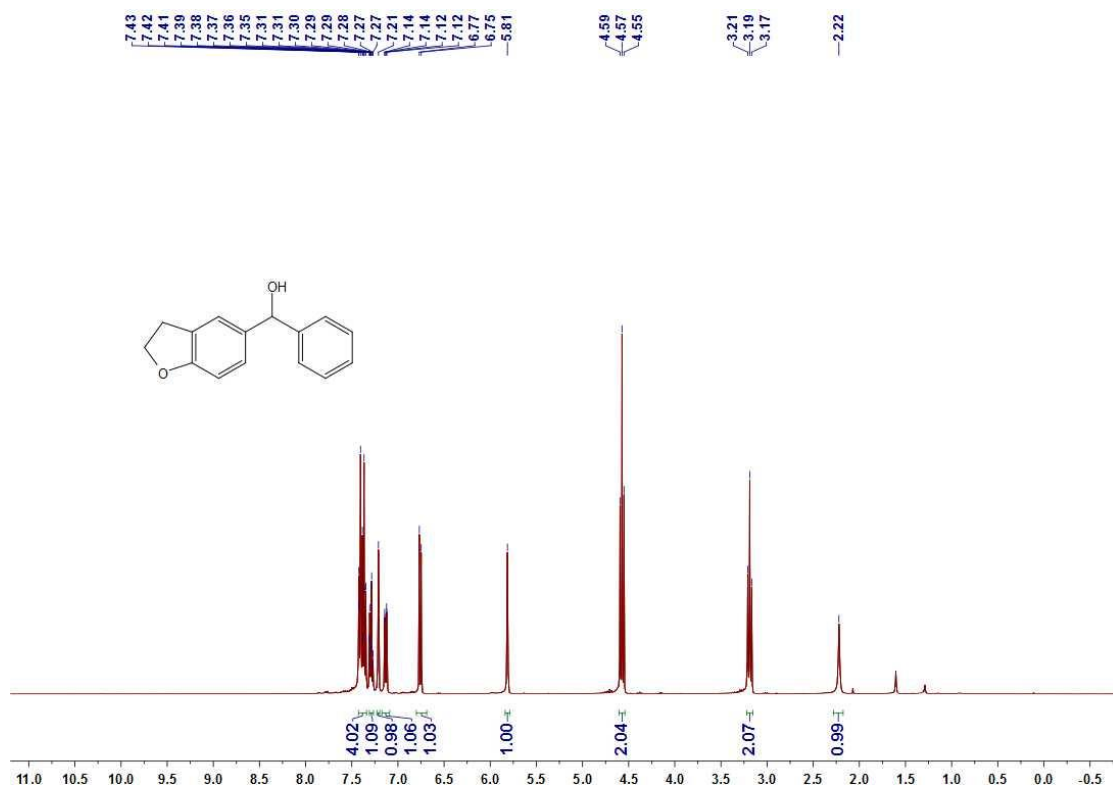
¹H and ¹³C NMR spectra of phenyl(pyridin-2-yl)methanol



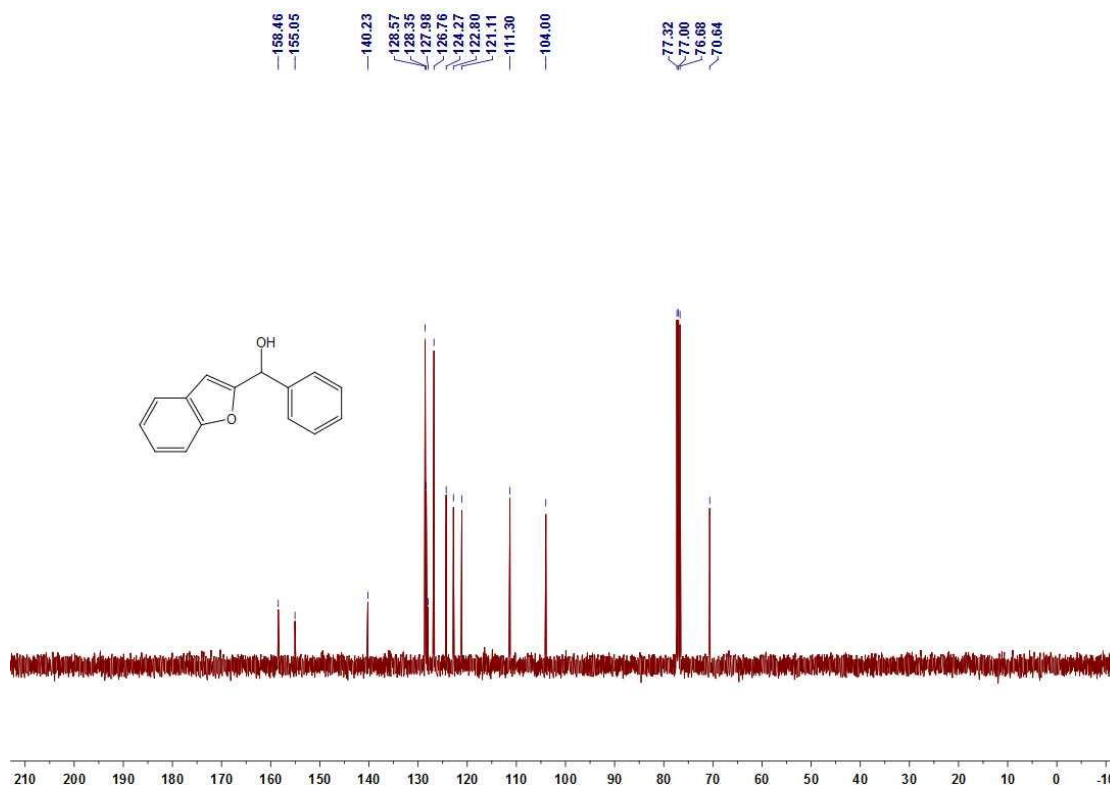
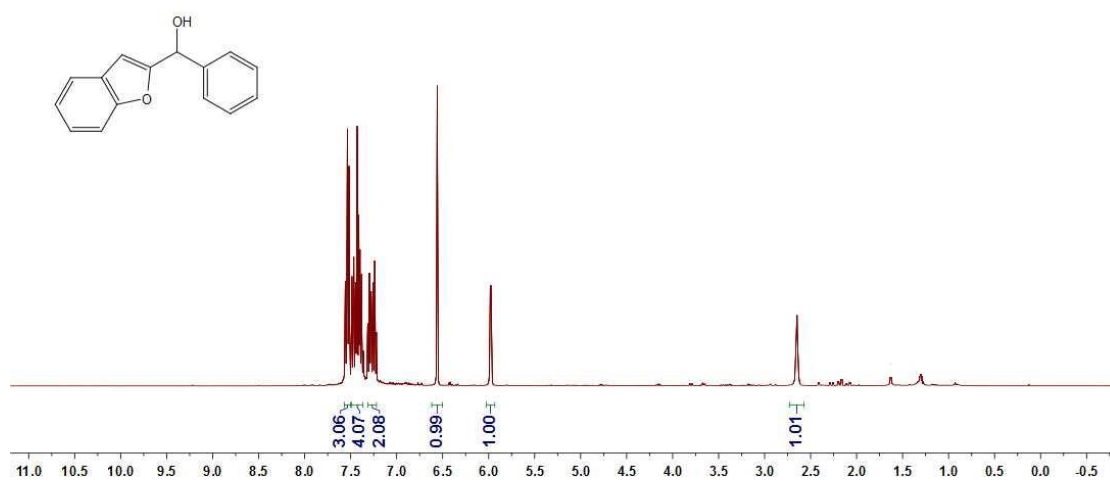
^1H and ^{13}C NMR spectra of phenyl(thiophen-2-yl)methanol



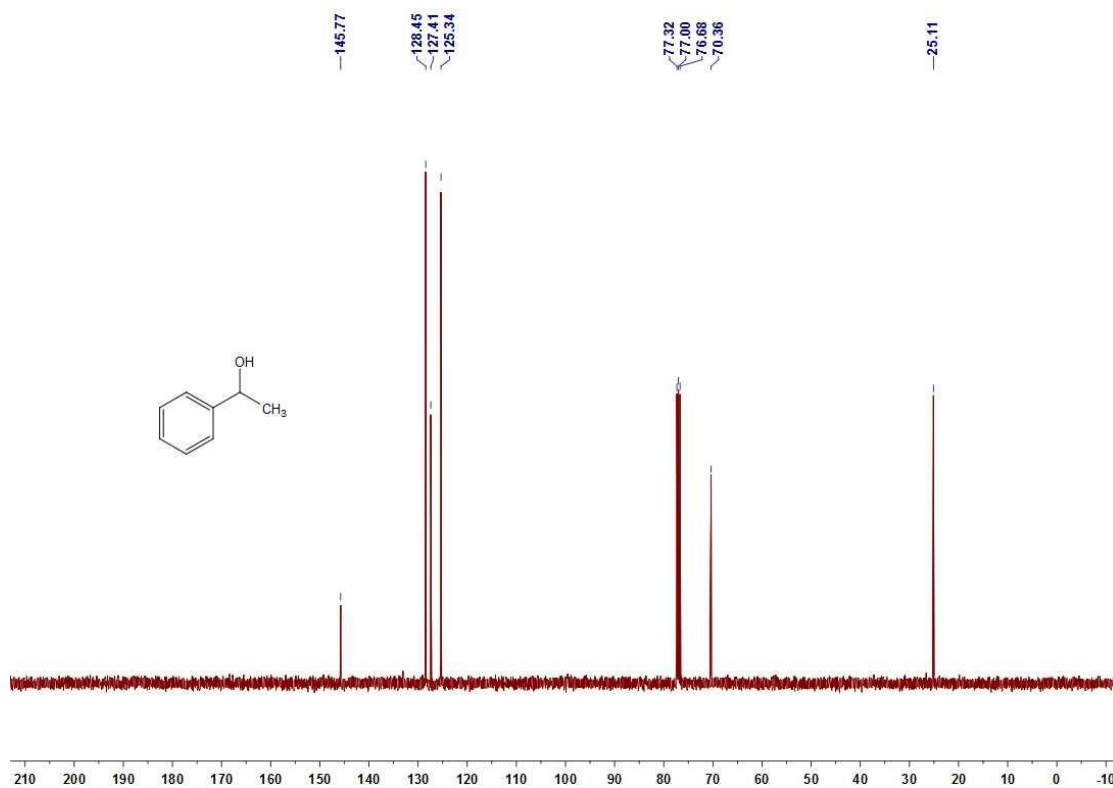
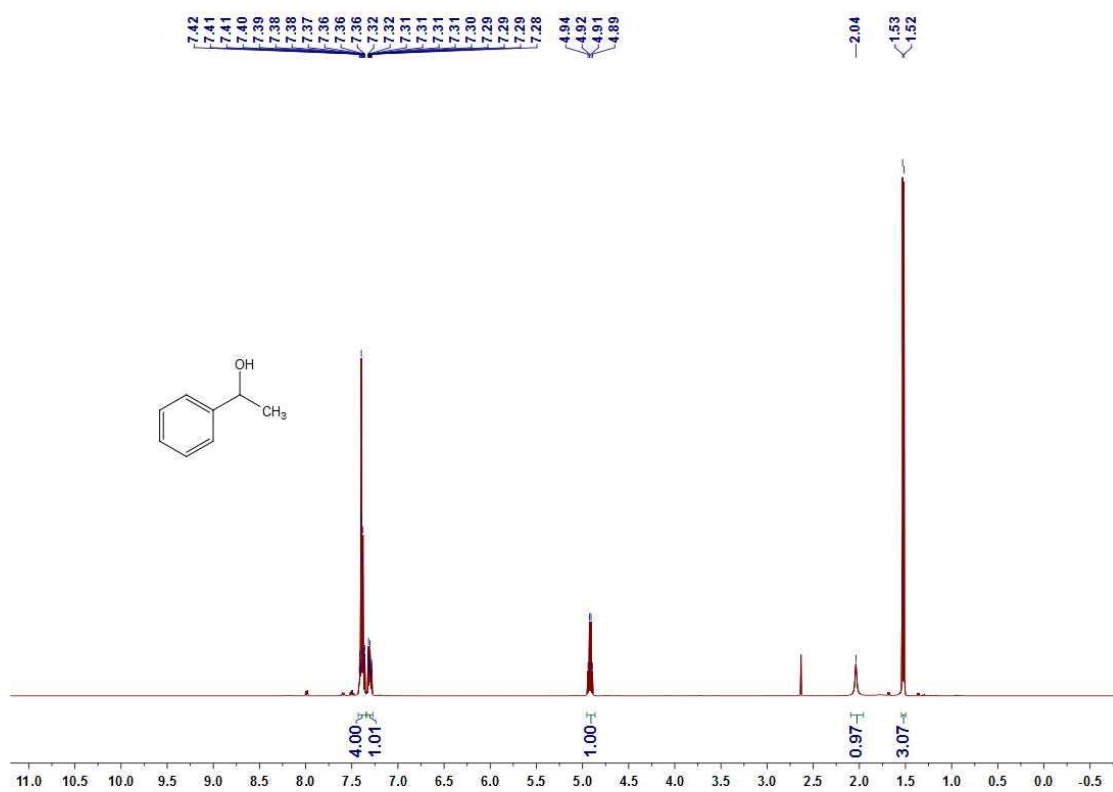
¹H and ¹³C NMR spectra of (2,3-dihydrobenzofuran-5-yl)(phenyl)methanol



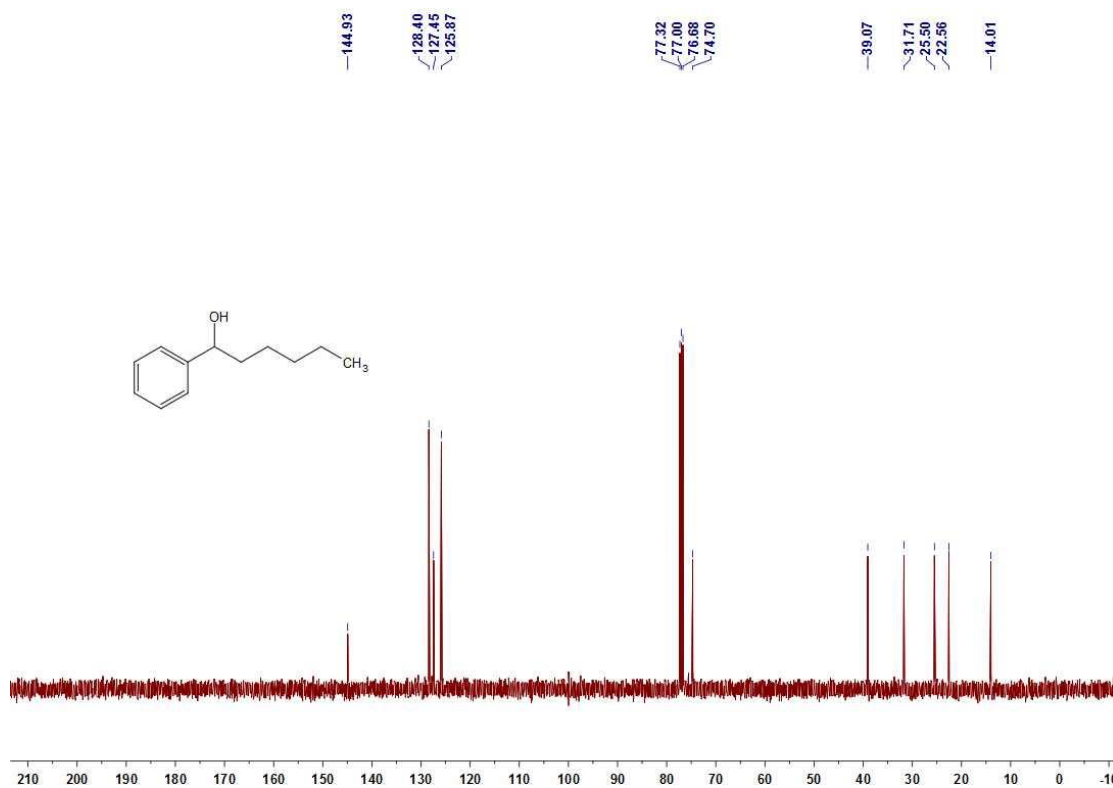
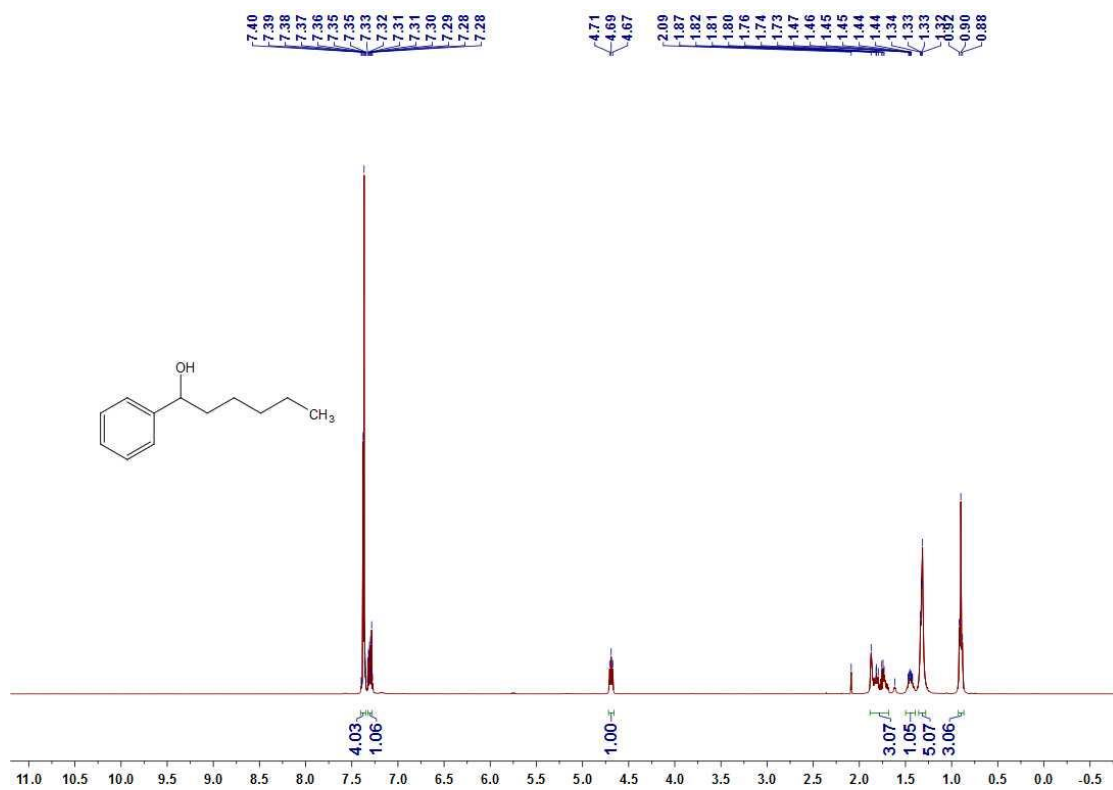
^1H and ^{13}C NMR spectra of **benzofuran-2-yl(phenyl)methanol**



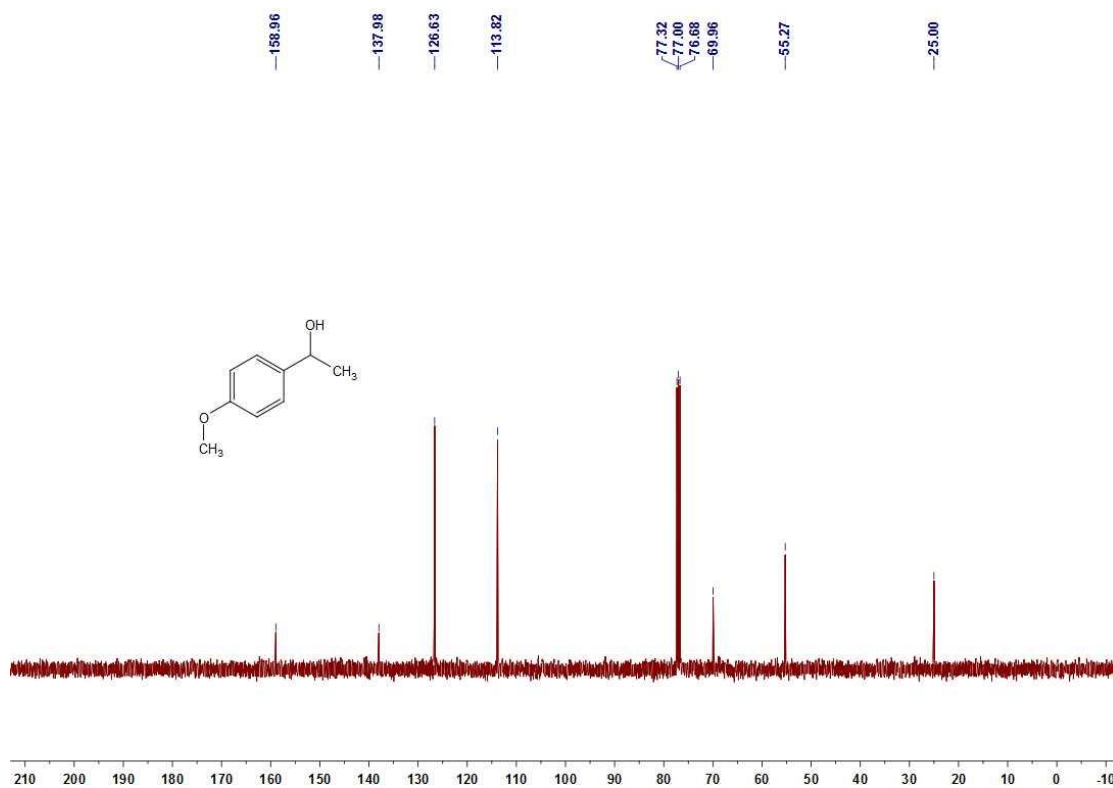
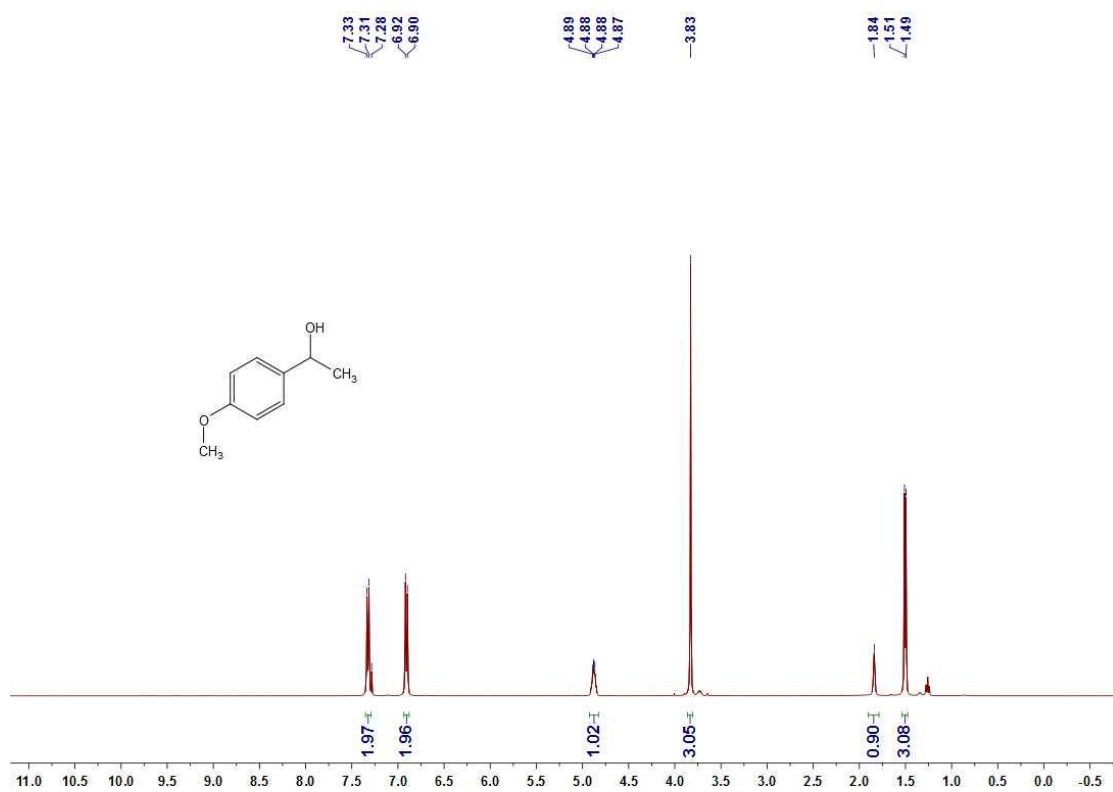
^1H and ^{13}C NMR spectra of 1-phenylethanol



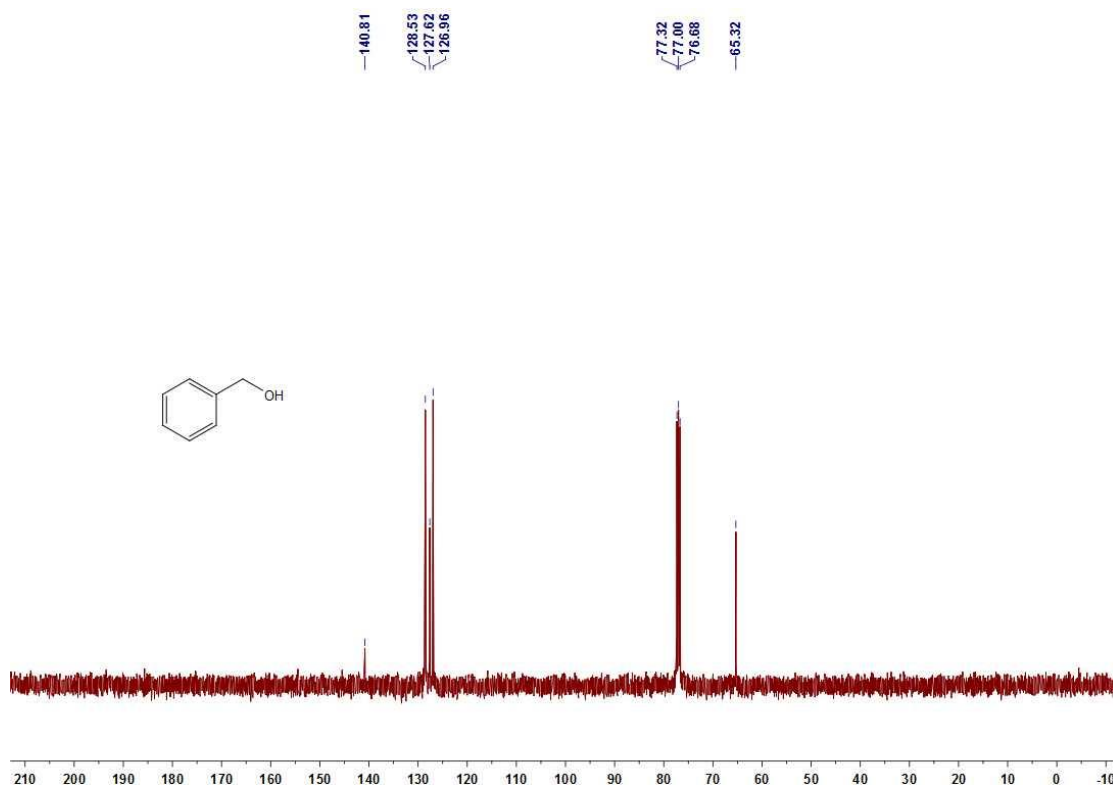
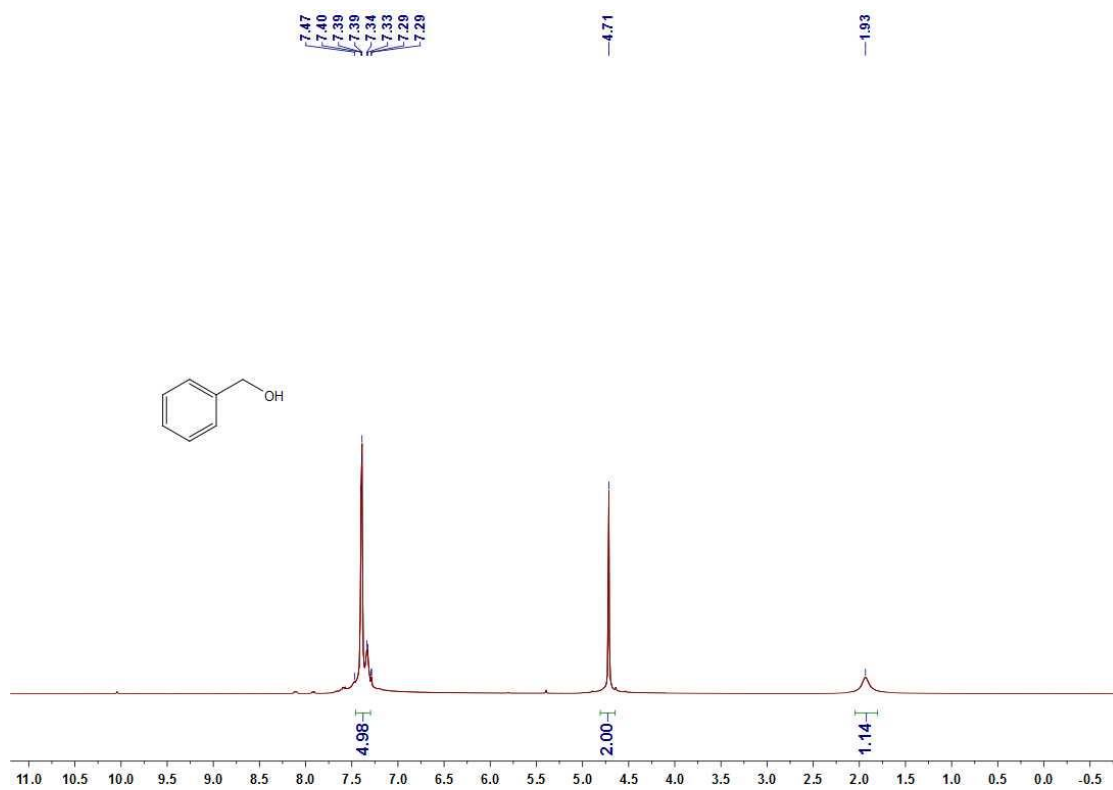
¹H and ¹³C NMR spectra of 1-phenylhexan-1-ol



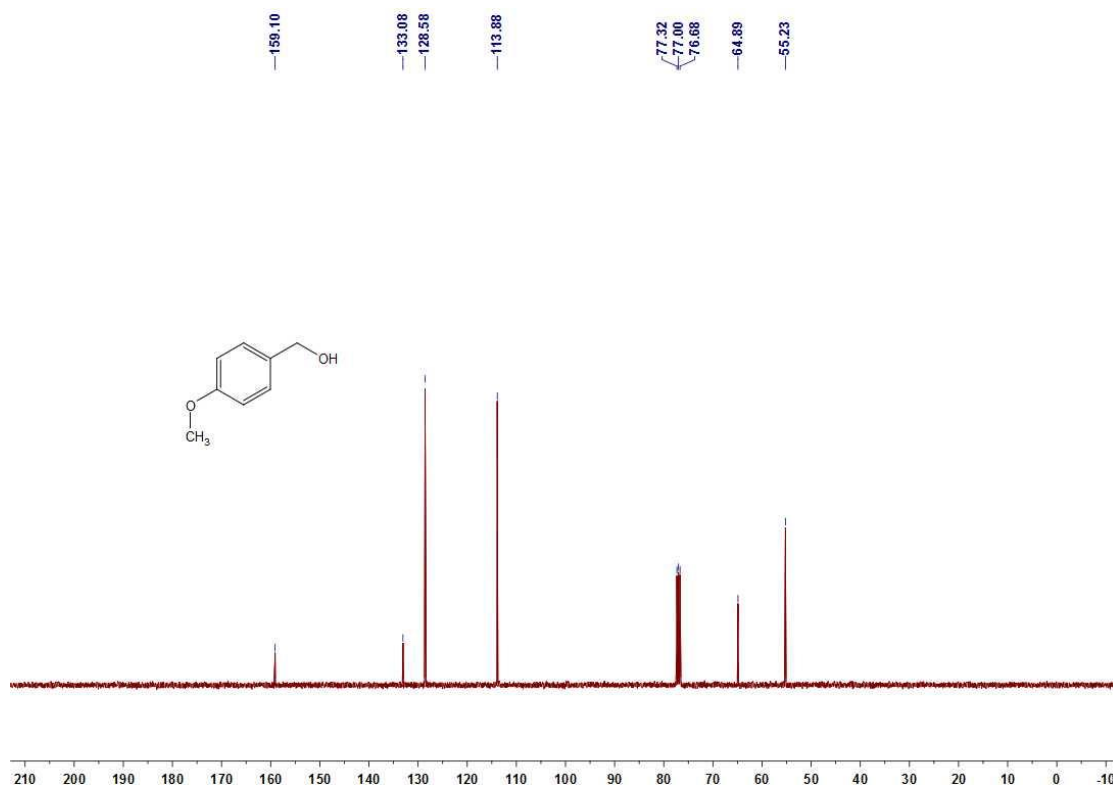
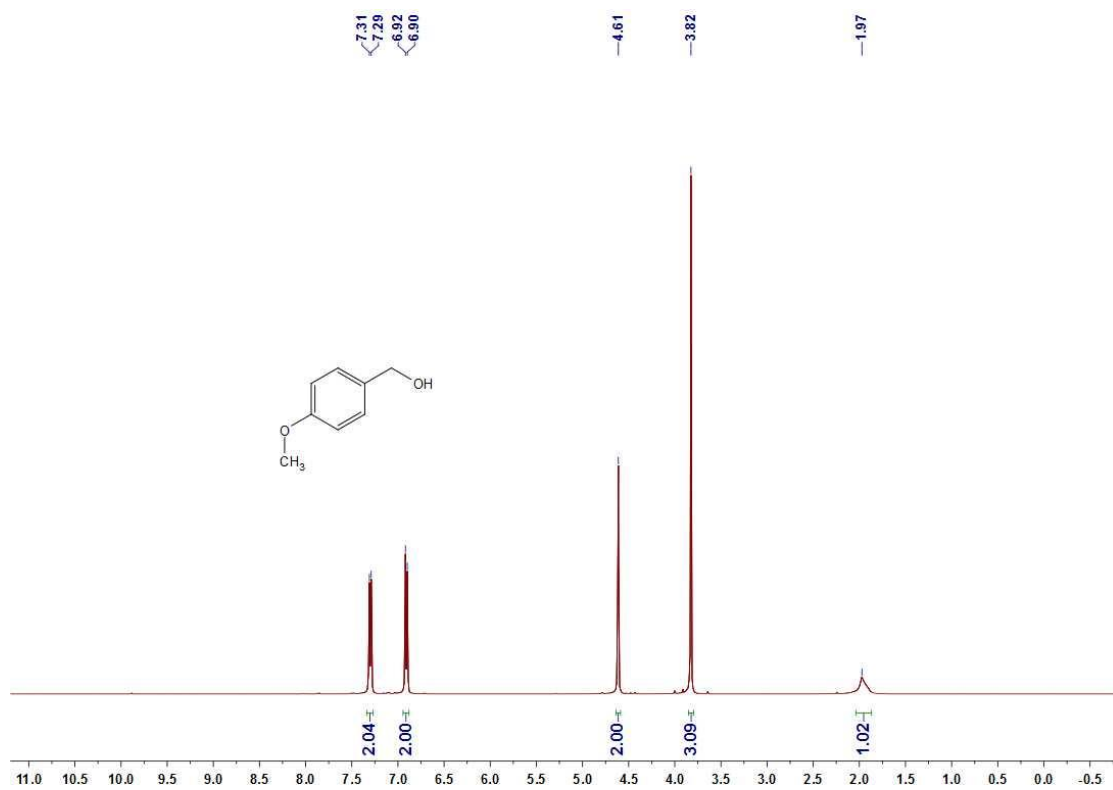
¹H and ¹³C NMR spectra of 1-(4-methoxyphenyl)ethanol



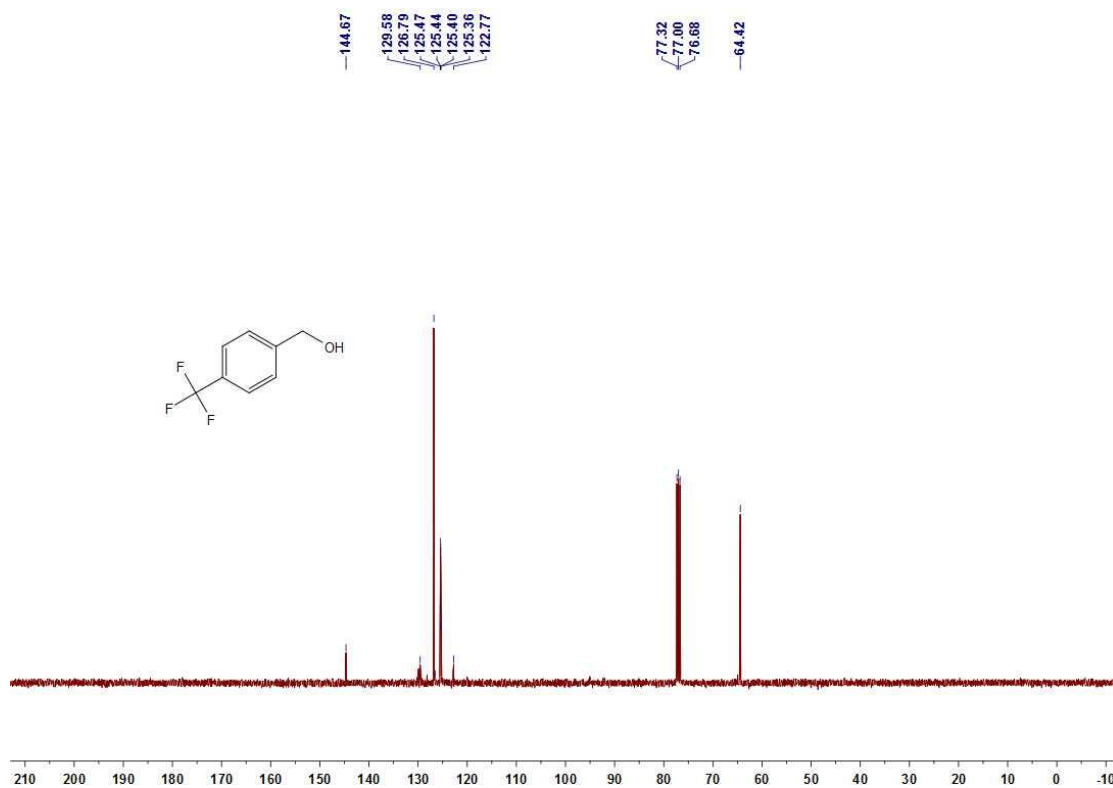
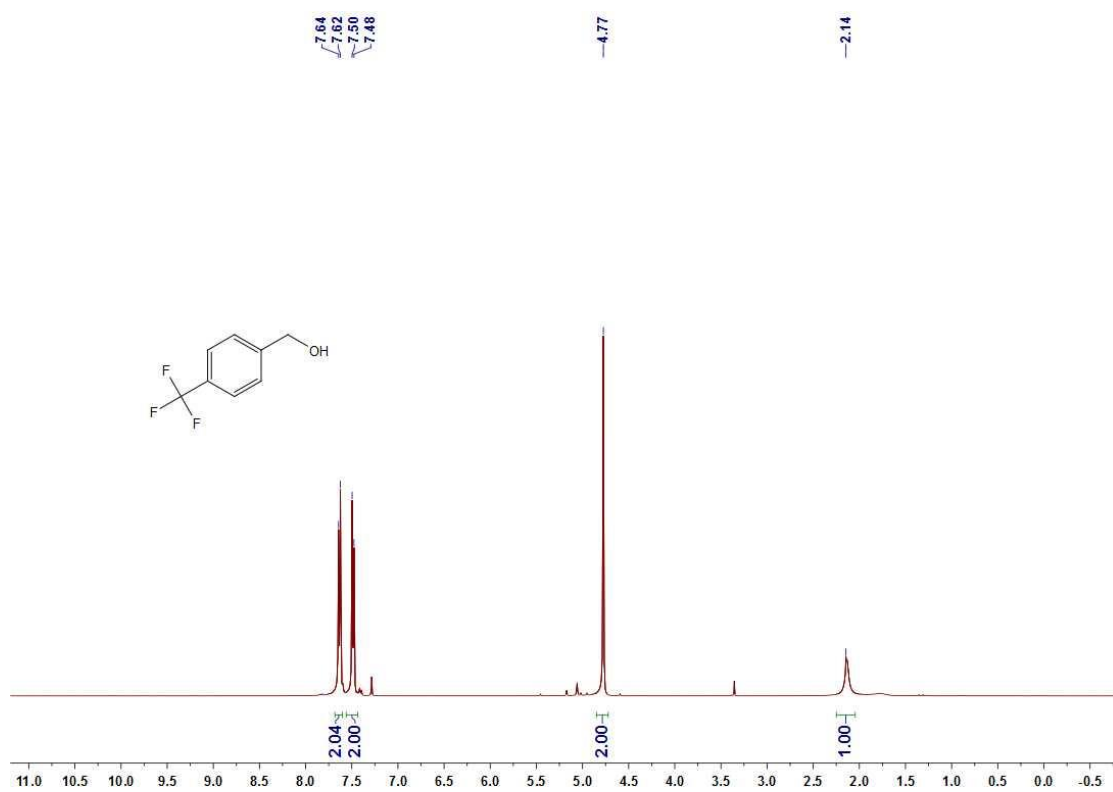
^1H and ^{13}C NMR spectra of phenylmethanol



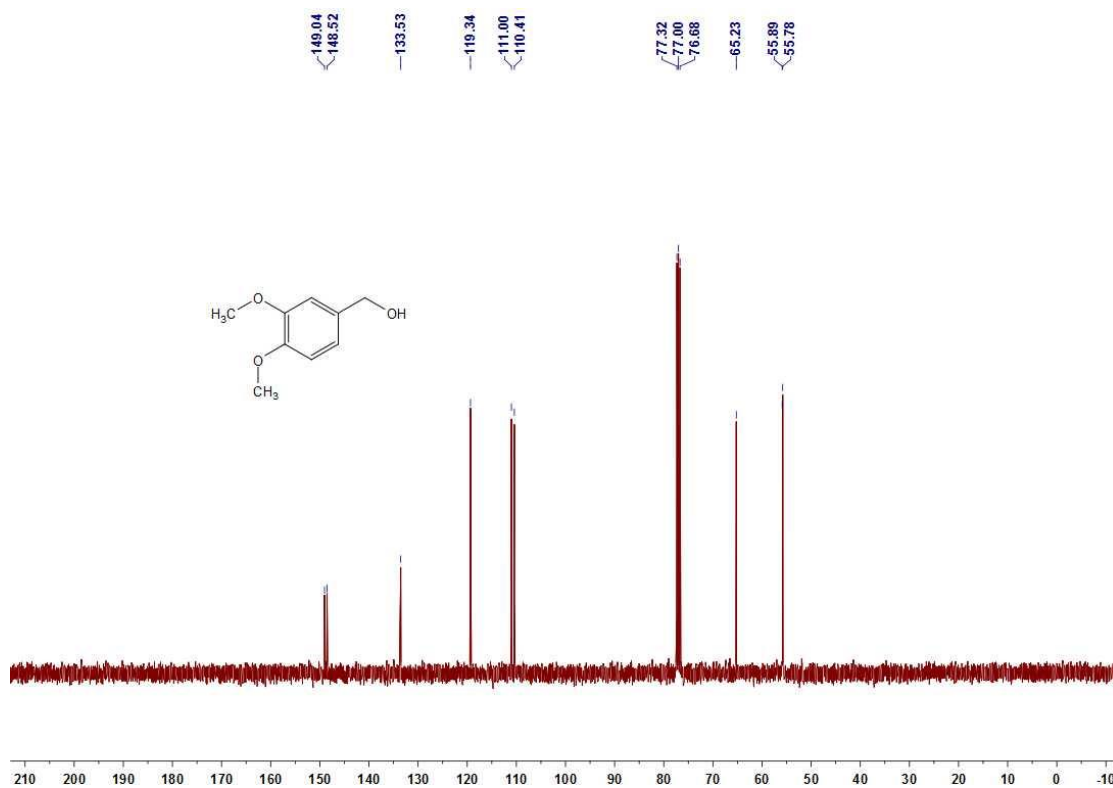
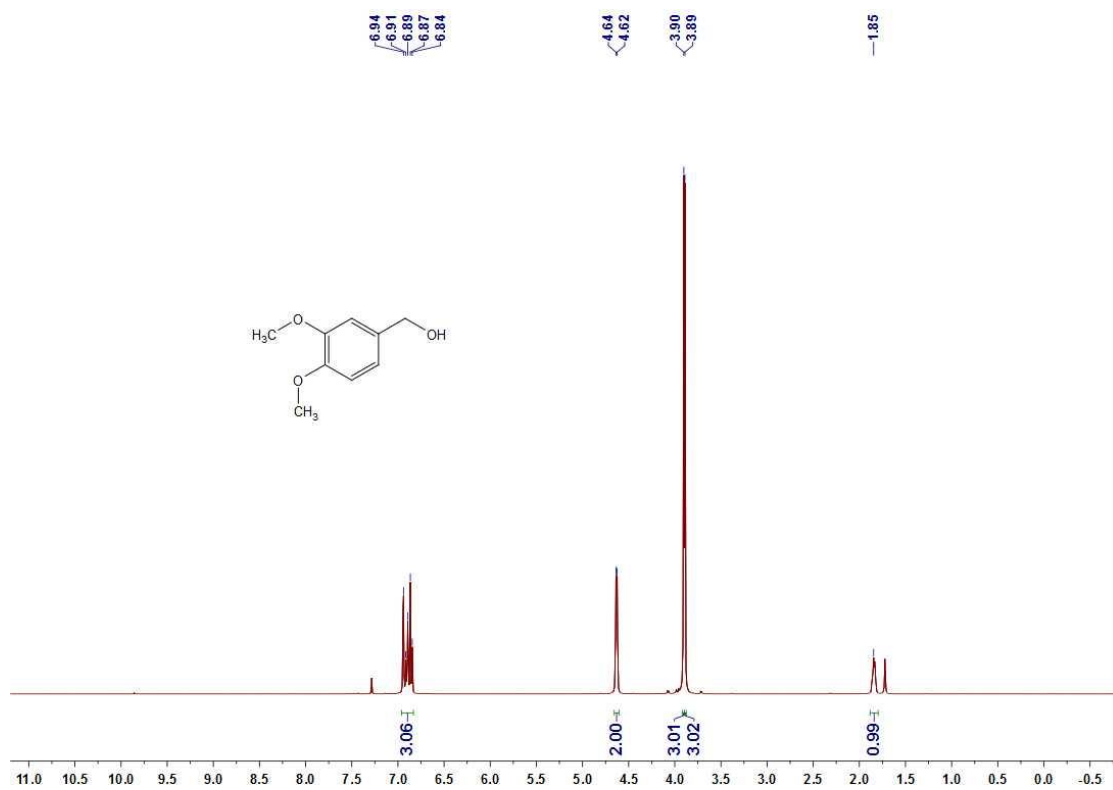
¹H and ¹³C NMR spectra of (4-methoxyphenyl)methanol



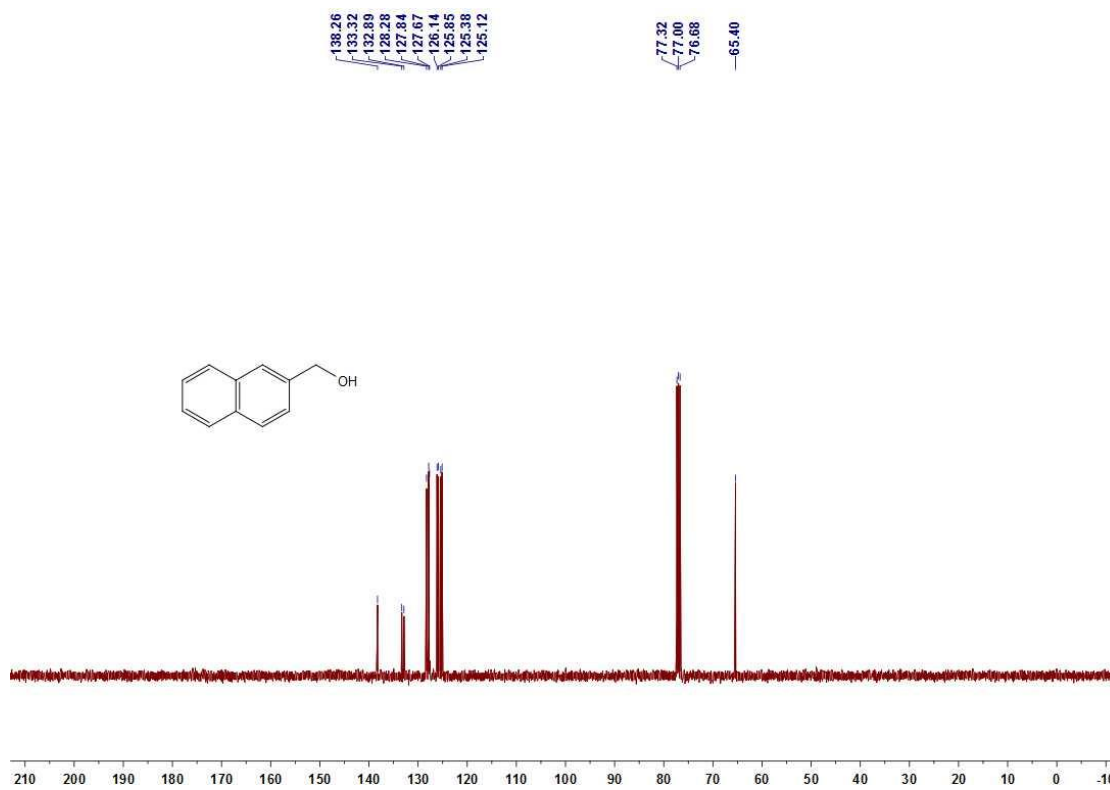
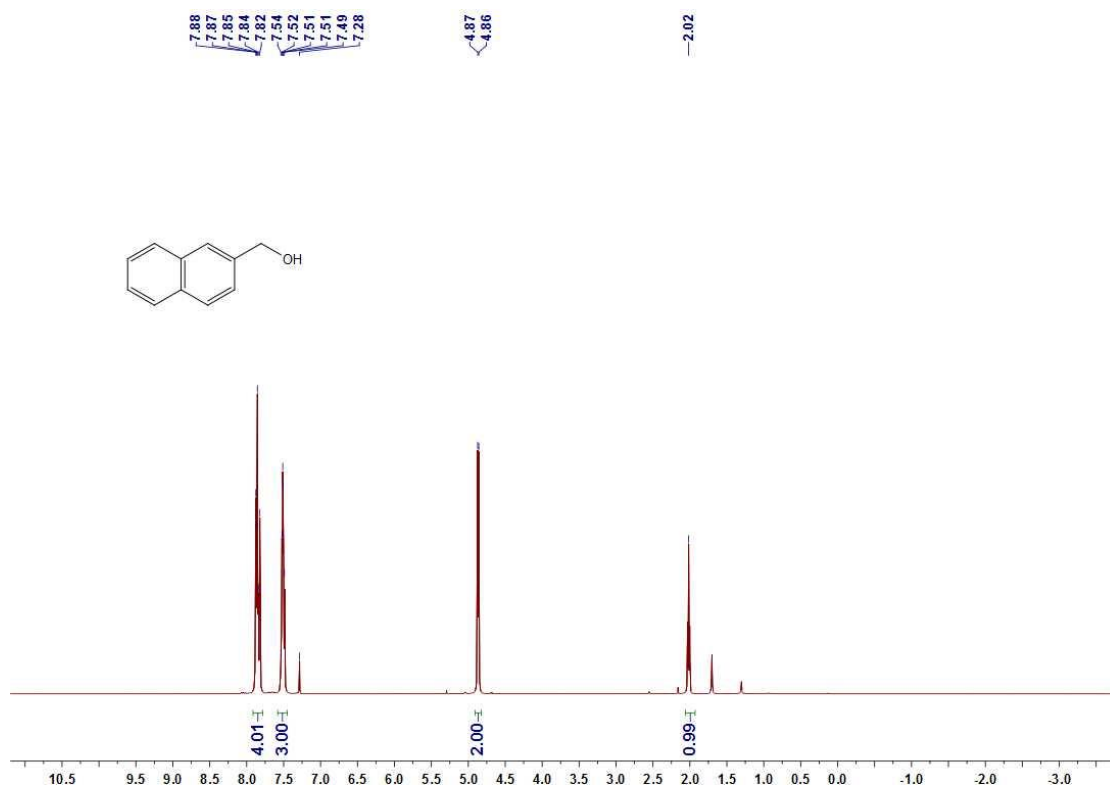
^1H and ^{13}C NMR spectra of (4-(trifluoromethyl)phenyl)methanol



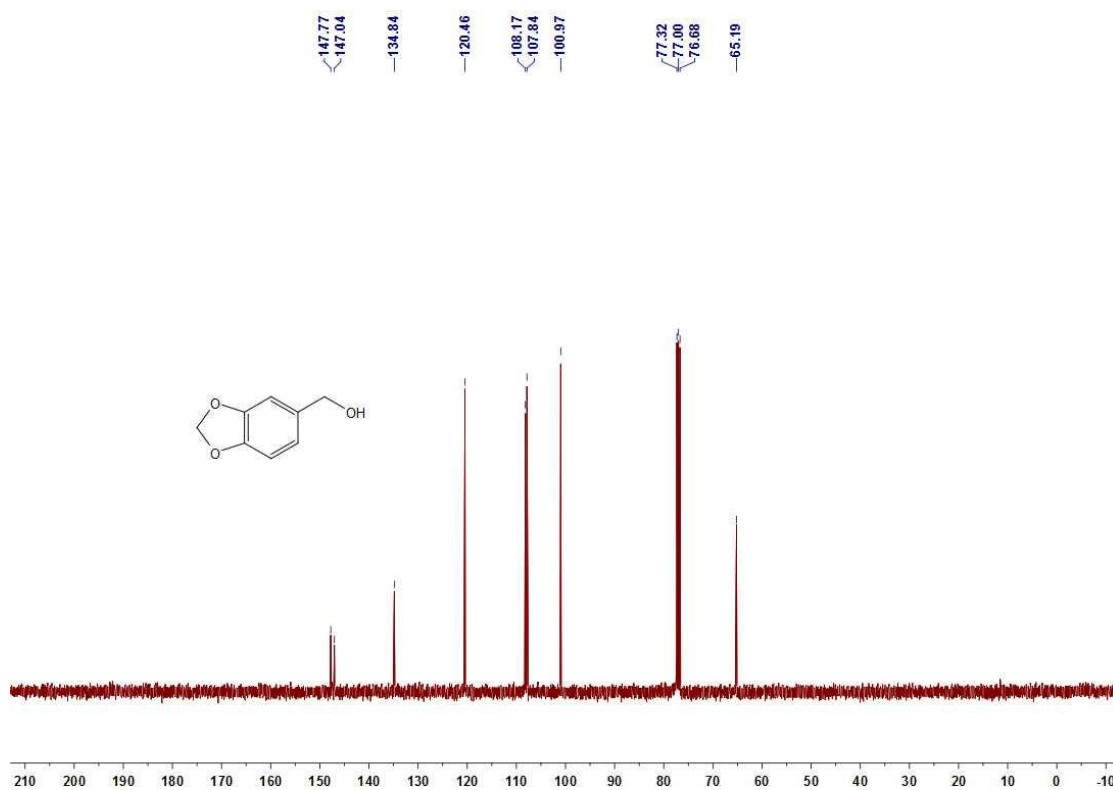
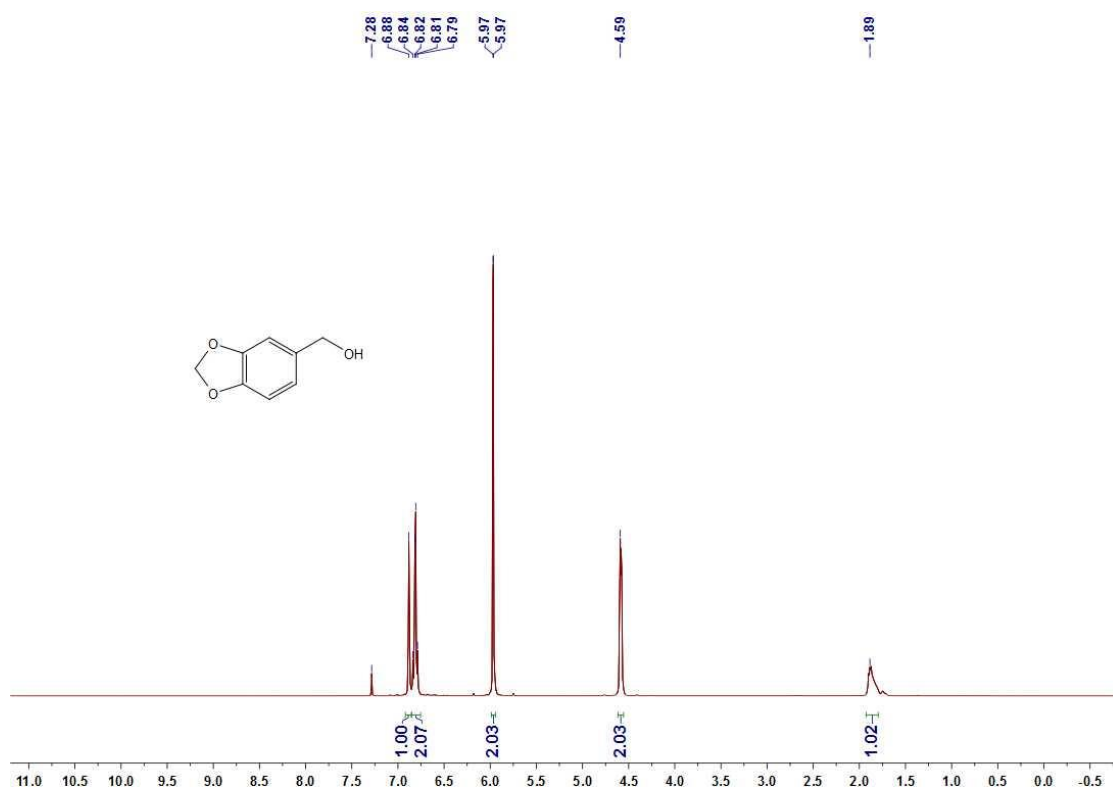
^1H and ^{13}C NMR spectra of (3,4-dimethoxyphenyl)methanol



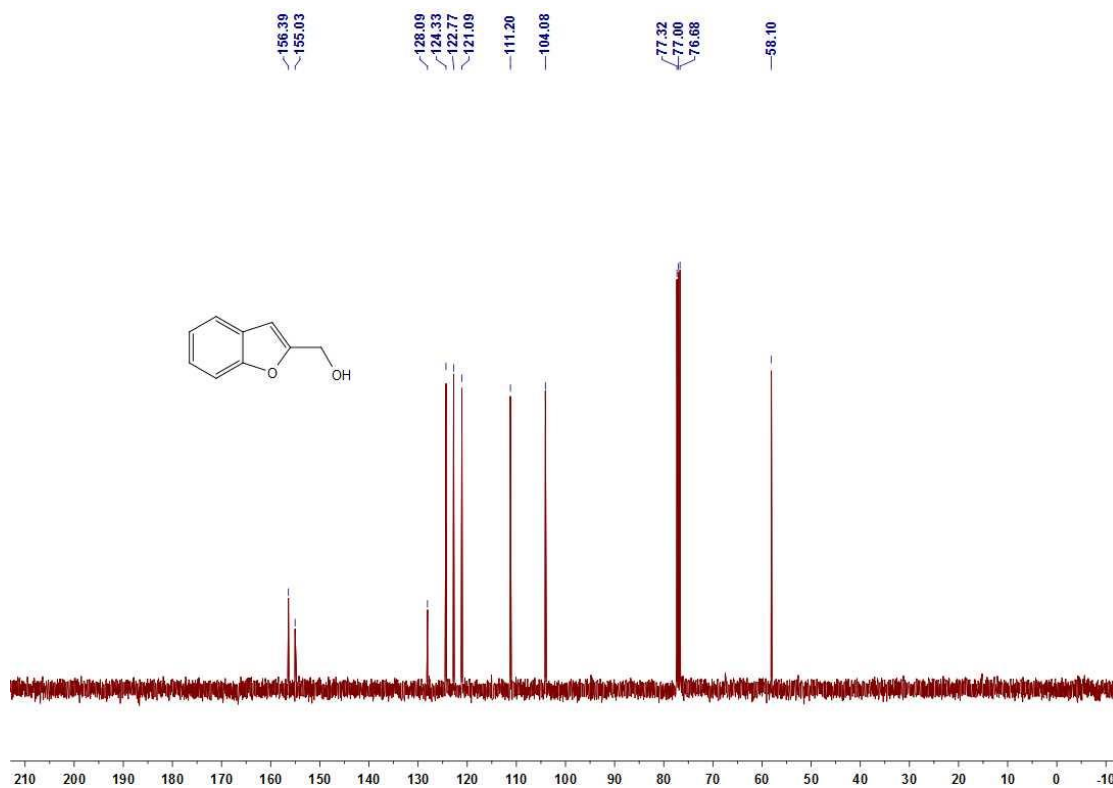
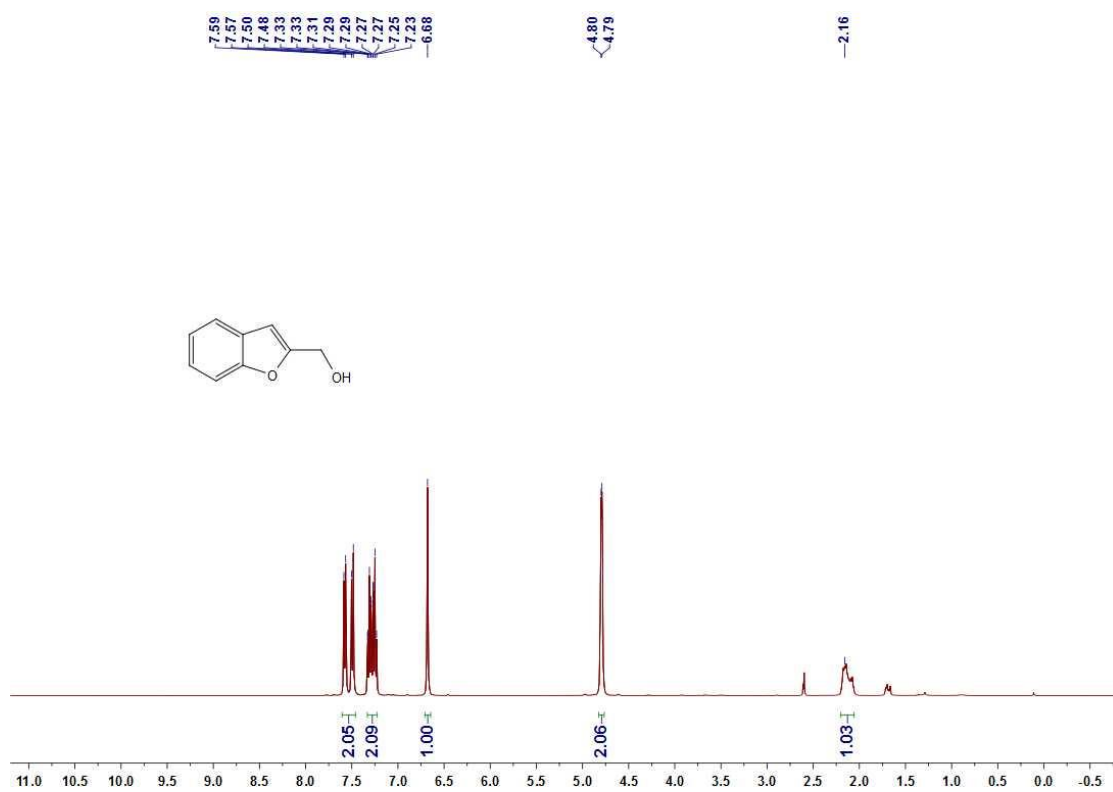
^1H and ^{13}C NMR spectra of naphthalen-2-ylmethanol



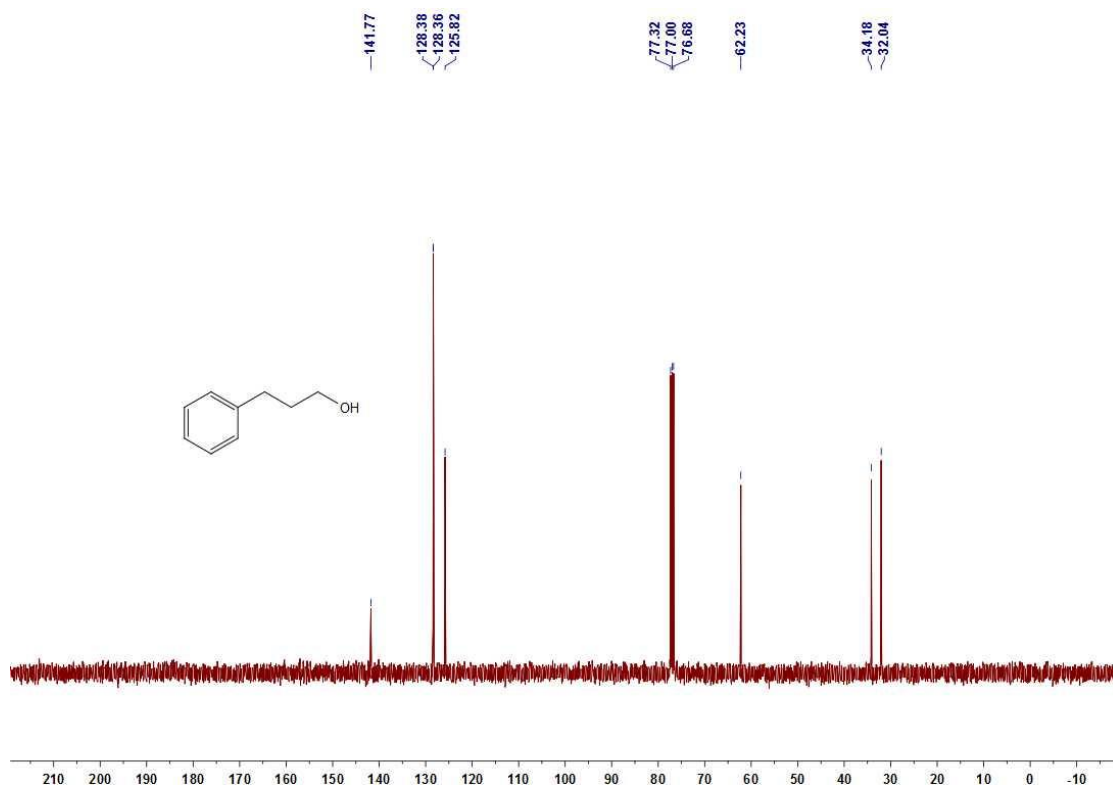
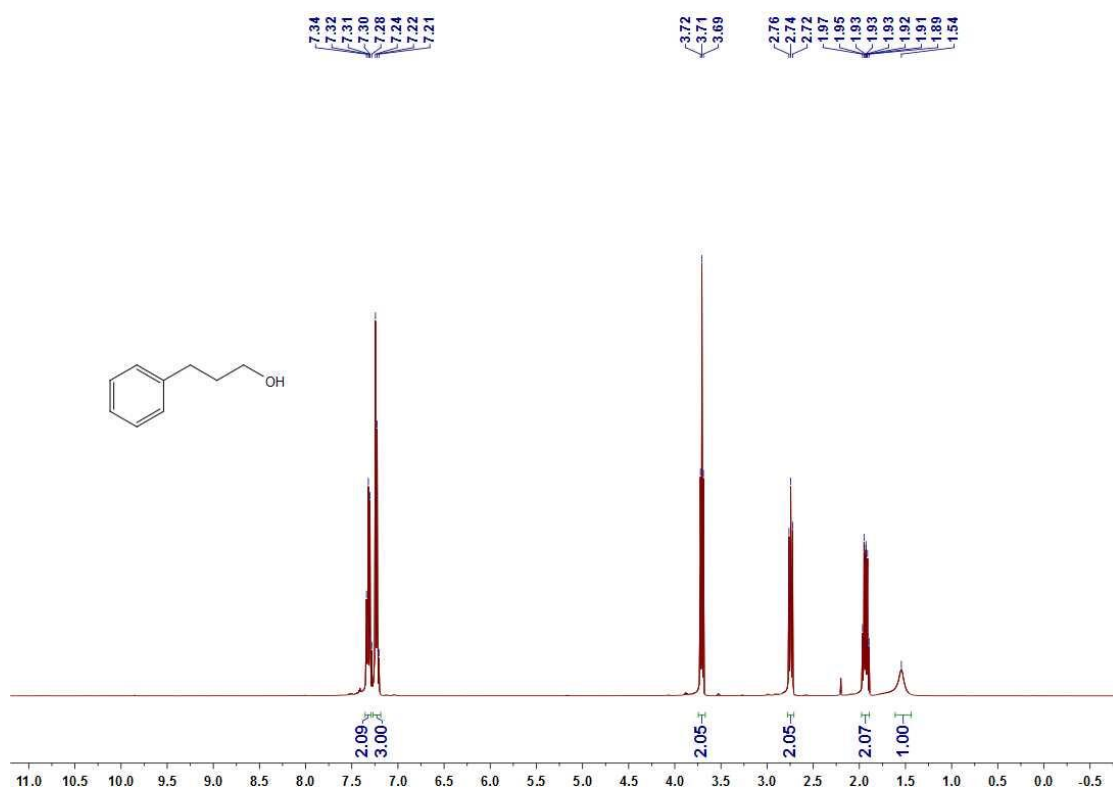
¹H and ¹³C NMR spectra of benzo[d][1,3]dioxol-5-ylmethanol



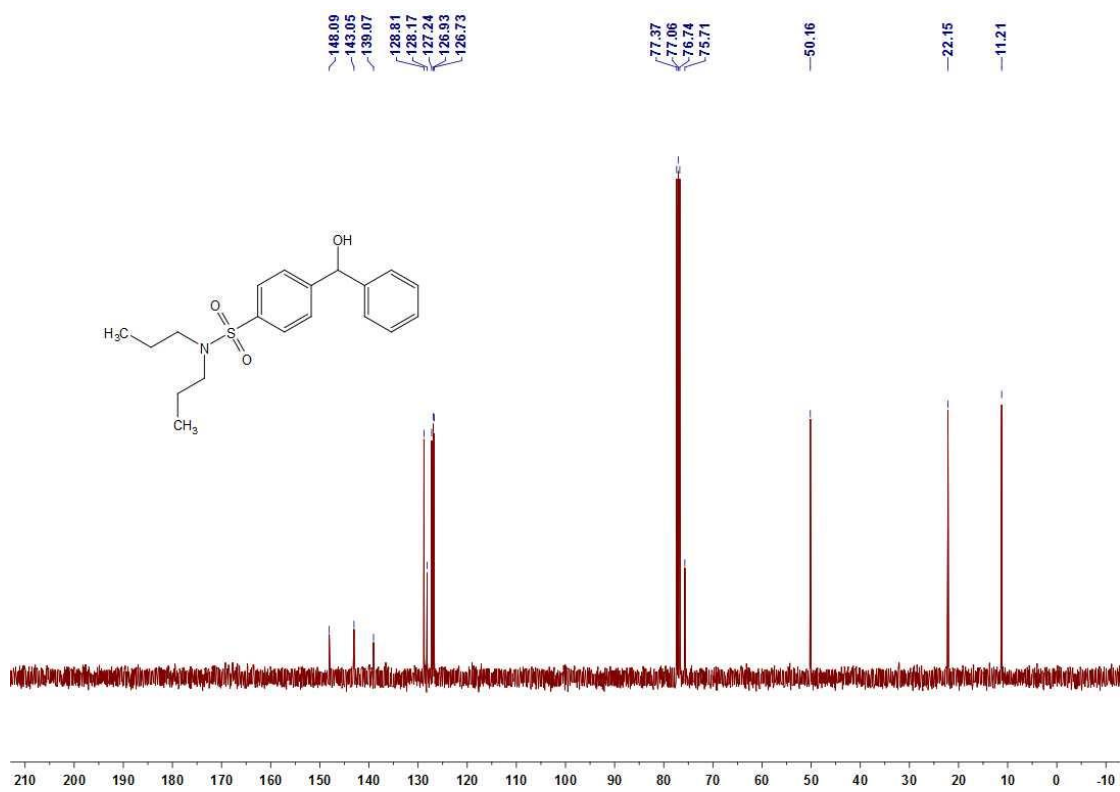
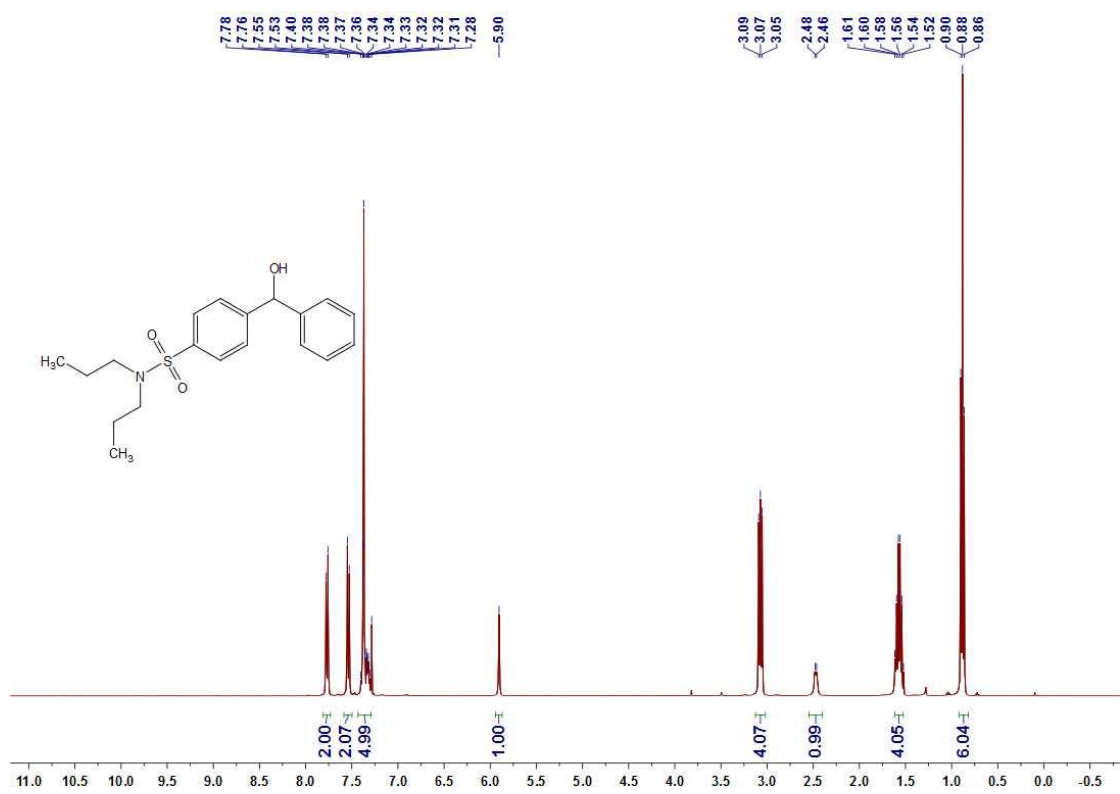
^1H and ^{13}C NMR spectra of benzofuran-2-ylmethanol



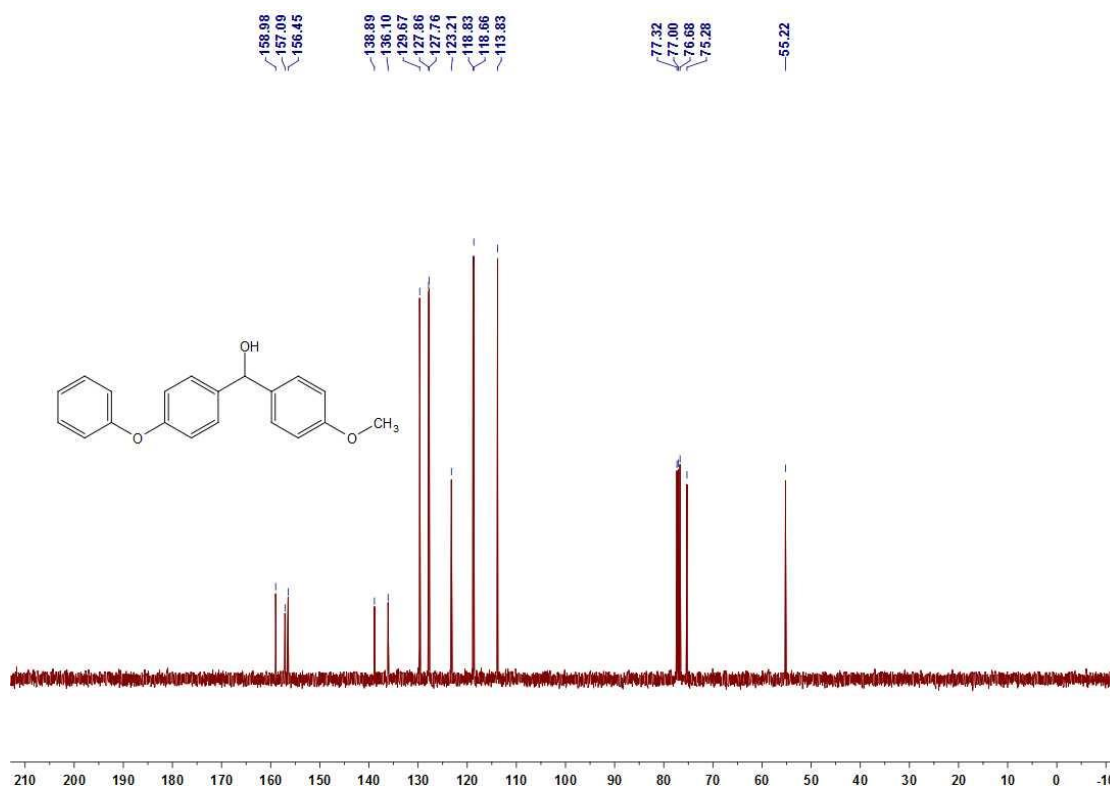
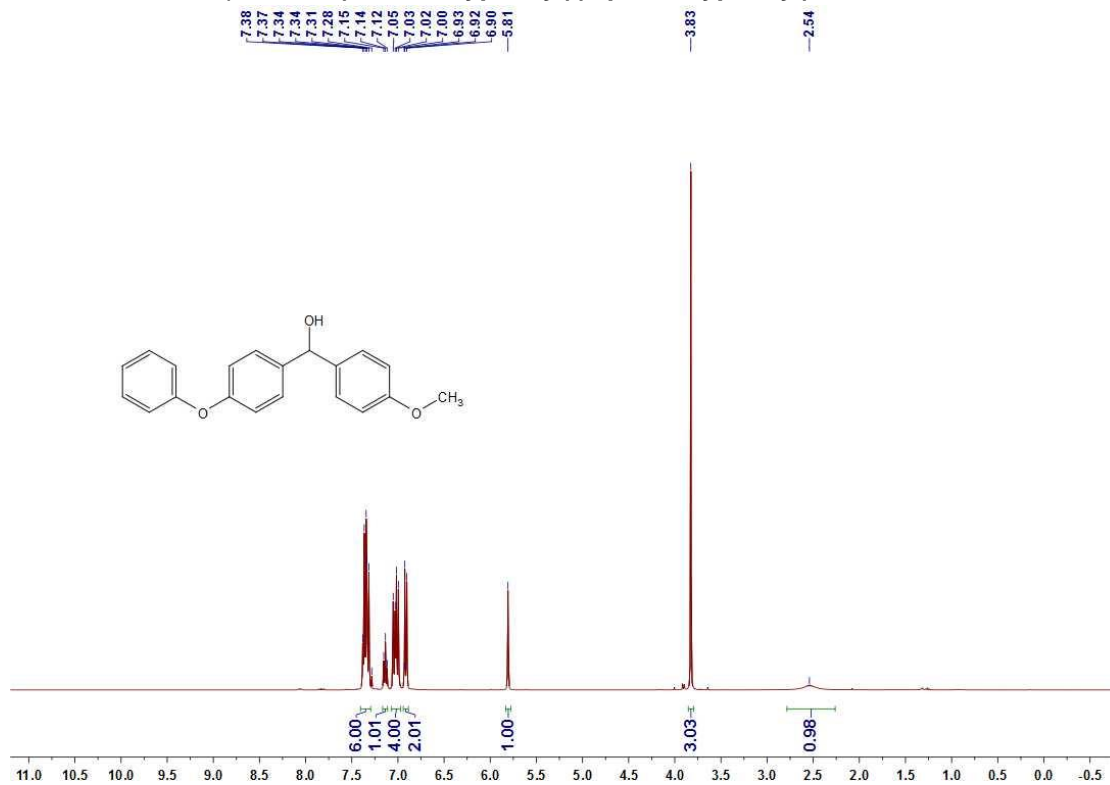
¹H and ¹³C NMR spectra of 3-phenylpropan-1-ol



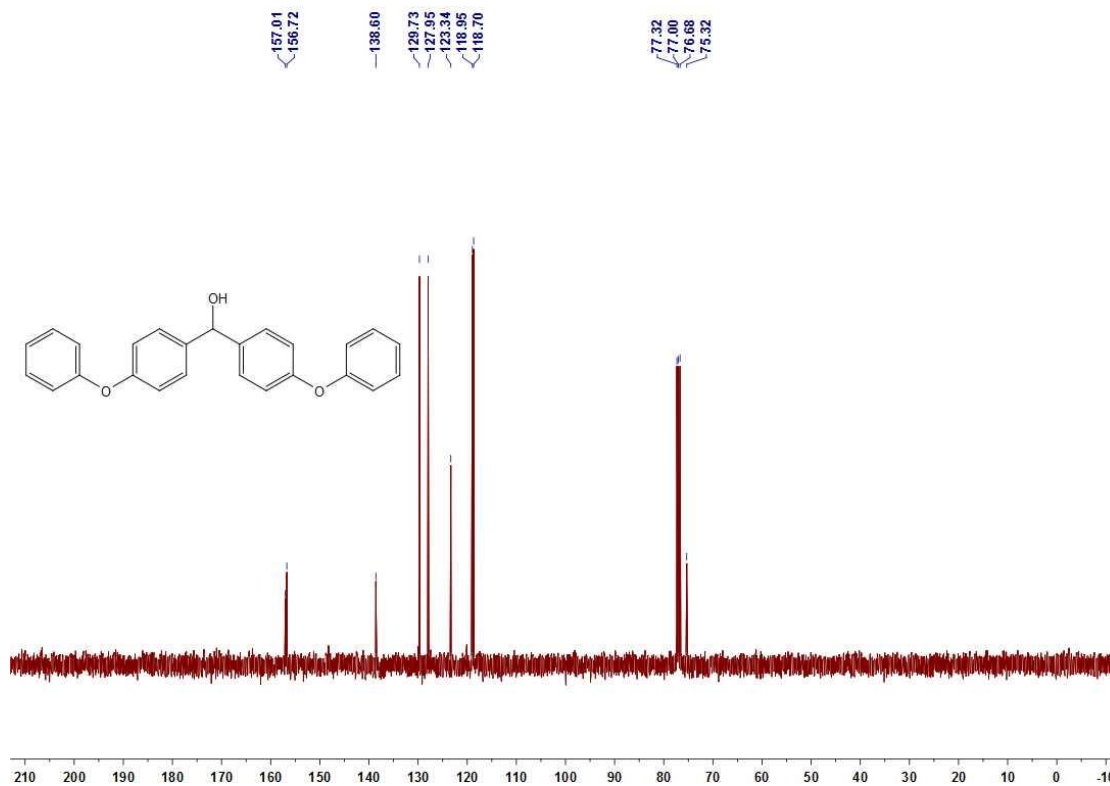
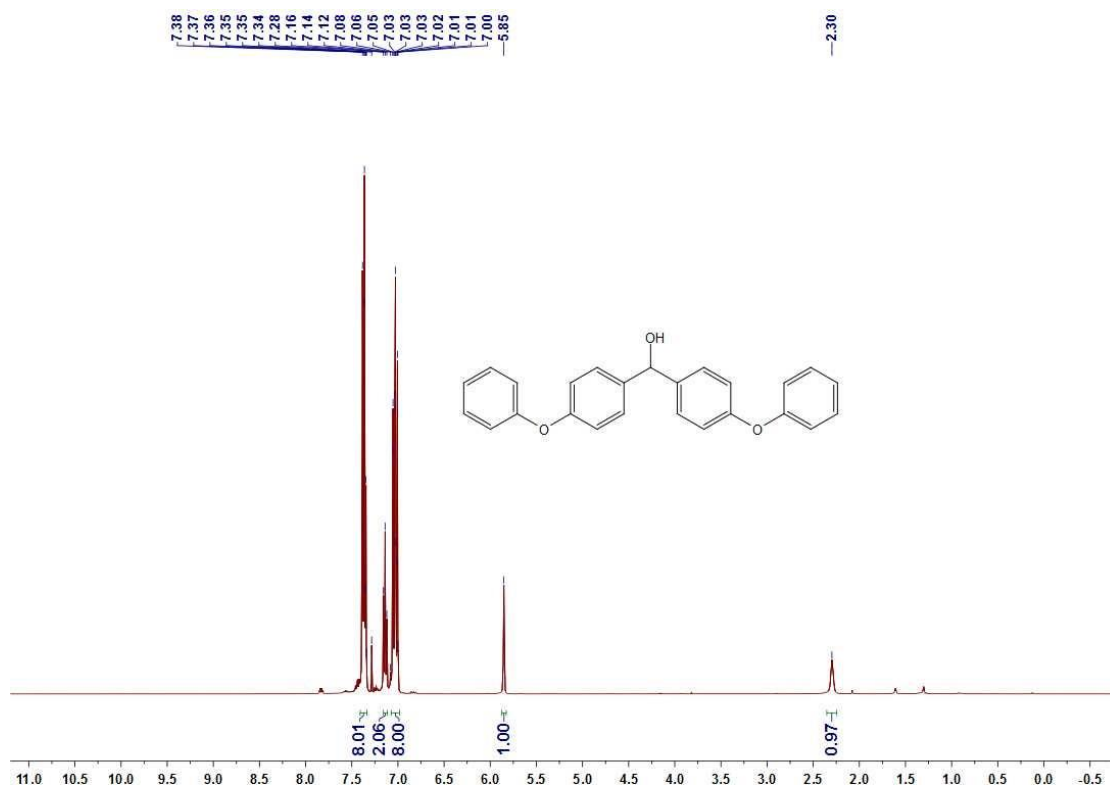
¹H and ¹³C NMR spectra of 4-(hydroxy(phenyl)methyl)-N,N-dipropylbenzenesulfonamide



¹H and ¹³C NMR spectra of (4-methoxyphenyl)(4-phenoxyphenyl)methanol



¹H and ¹³C NMR spectra of bis(4-phenoxyphenyl)methanol



^1H and ^{13}C NMR spectra of compound **d-2a**

